

# TCA

The Canadian Amateur

## Canada's Amateur Radio Magazine La Revue des Radioamateurs Canadiens

JANUARY / FEBRUARY 2014 – JANVIER / FÉVRIER 2014

**Changing of the Guard  
at VE1JF**



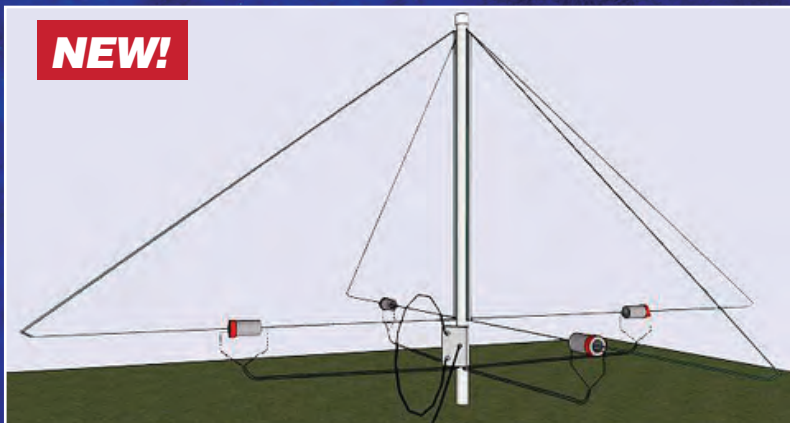


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# TCA

The Canadian Amateur

**JANUARY & JANVIER &  
FEBRUARY FÉVRIER  
2014**

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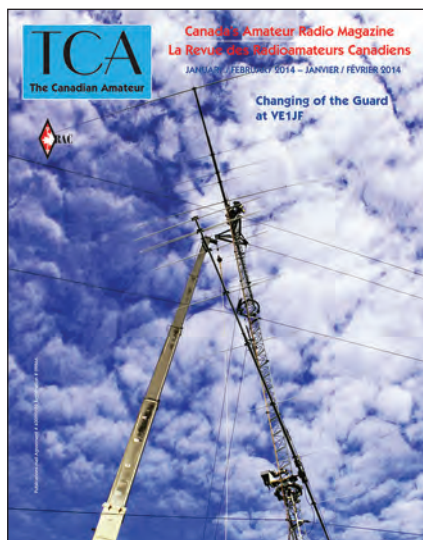
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#### Changing of the Guard at VE1JF:

"This Saturday it was coming down,  
along with some other beams further  
down the well-known 110-foot tower plus  
tower and guy wire sections to leave  
40 feet still pointing at the heavens."  
— see page 27 for the complete article.



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(\*Note: Method B is preferred).

## Silent Keys – In Memoriam

*With regret, we record the passing of these Amateur Radio operators.*

*Nous avons le regret de vous annoncer le décès des radioamateurs suivants.*

VA1MAB – Lloyd Smith, of Amherst, NS, at age 81, on December 1, 2013.  
VA3WCP – Charles Pereira, of Burlington, ON, at age 54, on January 19, 2012.  
VA7ANI – Walter Isaacson, of Nanaimo, BC, on October 23, 2013.  
VE1ARK – Bob Burke, of Moncton, NB, at age 84, on December 2, 2013.  
VE1CA\* – Lewis Thorpe, of New Minas, NS, at age 81, on October 29, 2013.  
VE1DBI – David Hannah, of Halifax, NS, at age 50, on October 4, 2013.  
VE1DEB – Debbie Canning, of Trenton, NS, at age 57, on October 29, 2013.  
VE1IZ – Malcolm Redding, of Saint John, NB, at age 93, on November 22, 2013.  
VE1KH – Robert Bennett, of Middleton, NS, at age 68, on November 11, 2013.  
VE1LY – Felix D'Eon, of West Pubnico, NS, at age 81, on October 3, 2013.  
VE1PBX – Fred Allen, of Lower Sackville, NS, at age 84, on July 28, 2013.  
VE1SS – Paul Follini, of Cole Harbour, NS, at age 78, on June 18, 2013.  
VE1WSM – Wayne Morgan, of Berwick, NS, at age 79, on September 30, 2013.  
VE2ES – Roger Wuilleumier, of Roxboro, QC, on October 5, 2013.  
VE3AJU – Dave Birchmore, of Brights Grove, ON, at age 82, on November 26, 2013.  
VE3BFY – John Morken, of Burlington, ON, at age 84, on January 3, 2012.  
VE3CYL\* – Tom Watson, of Burlington, ON, on July 14, 2012.  
VE3DXG – Ted Taito, of Hamilton, ON, at age 81, on November 7, 2013.  
VE3GGQ – Edward Duncan, of Ottawa, ON, at age 85, on October 4, 2013.  
VE3KPD – Vern Mason, of Kitchener, ON, at age 90, on October 13, 2013.  
VE3MAT – Claire Gillies, of Cambridge, ON, at age 87, on March 28, 2013.  
VE3MCO – Jim McMillan, of Dunbar, ON, at age 83, on October 16, 2013.  
VE3NBL – Doug Last, of Mount Hope, ON, at age 87, on October 1, 2013.  
VE3RIR – Bill Raycroft, of Burlington, ON, at age 82, on February 26, 2012.  
VE3SAB – Steve Bancroft, of London, ON, at age 57, on November 10, 2013.  
VE3UEU – Gloria Thom, of Pembroke, ON, at age 86, on October 1, 2013.  
VE4AGZ – George McMath, of Winnipeg, MB, on October 19, 2013.  
VE4BAR – Brad Ruptash, of Selkirk, MB, at age 52, on October 31, 2013.  
VE4EPC – Eric Champagne, of Winnipeg, MB, at age 61, on November 11, 2013.  
VE4KH – Jack Carmichael, of Winnipeg, MB, on October 25, 2013.  
VE4KL – Kaye Lamb, of Winnipeg, MB, at age 95, on September 27, 2013.  
VE5OI – Alex Beaton, of Regina, SK, at age 99, on April 23, 2010.  
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VE6MOG – Morag Johnson, of Grand Prairie, AB, at age 75, on October 30, 2013.  
VE6PAS – Bill Laing (VE6COM), of Lethbridge, AB, at age 85, on November 4, 2013.  
VE6TRD – David Thomas, of Stettler, AB, at age 72, on October 2, 2013.  
VE7AY – Irv Kuss, of Delta, BC, at age 89, on October 25, 2013.  
VE7BDD – Jim Prime, of Duncan, BC, at age 83, on September 28, 2013.  
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VE7BTX – Peter Driedger, of Nanaimo, BC, at age, on November 4, 2012.  
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VE7GQA – Bob Wright, of Nanaimo, BC, at age 75, on November 10, 2013.  
VE9EAD – Ernest Dugas, of Grande Anse, NB, at age 83, on November 5, 2013.  
VE9HP – Henry Pitre, of Moncton, NB, at age 93, on June 22, 2013.  
VE9KT – Dan Lund, of Sackville, NB, at age 92, on November 9, 2013.  
VE9VK – Arnold DeLong, of Oromocto, NB, at age 75, on July 14, 2013.  
VY2ABF – Edgar Doucette, of Charlottetown, PE, at age 80, on November 10, 2013.

*Note: In the above list an \* indicates a previous call sign or that a call sign has been reissued.  
The list of Silent Keys is prepared by volunteers at RAC Headquarters at <rachq@rac.ca>.*

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56-63 for  
Section Reports.



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# AROUND THE CORNER...

People, Places, News and Events on the Canadian Amateur Radio Scene

The following news items have been compiled from Industry Canada, RAC bulletins and the RAC website at <www.rac.ca>. To subscribe to RAC bulletins visit <http://rac.eton.ca/racbullemail.htm>. Thanks to RAC Bulletin Editor – Vernon Ikeda, VE2MBS/VE2QQ. Traduction par Serge Langlois, VE2AWR.

## Industry Canada posts RAC letter of response to Medical Devices operating in 70 cm band

Note: Any questions and/or comments to this bulletin can go through Vincent Charron, VA3GX/VE2HHH, RAC Director of Communications and Fundraising at [communications@rac.ca](mailto:communications@rac.ca)

In the September-October 2013 issue of TCA there was an article entitled: "Industry Canada Releases a Radio Standard Specification (RSS) for Medical Devices Operating in the Band 413-457 MHz". In the article, we mentioned RAC would be responding to IC with a letter of comment. This letter is now posted for public viewing on the Industry Canada website at: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10715.html>. We encourage members to read it.

Norm Rashleigh, VE3LC – RAC Representative the Radio Advisory Board of Canada

## Industrie Canada publie la lettre de RAC en réponse aux dispositifs médicaux fonctionnant dans la bande de 70 cm

Note : Toute question et/ou commentaires pour ce bulletin peut passer par moi, l'information de contact procurée par mon fichier de signature: Vincent Charron, VA3GX/VE2HHH, Directeur des communications et des collectes de fonds du Radio Amateurs du Canada : [communications@rac.ca](mailto:communications@rac.ca)

Dans l'édition de septembre/octobre de la revue TCA il y avait un article intitulé "Industrie Canada publie un cahier des normes radioélectriques (CNR) pour des dispositifs médicaux fonctionnant dans la bande de 413-457 MHz."

Dans l'article, nous avons mentionné que RAC répondrait à I.C. avec une lettre de commentaires. Cette lettre est maintenant publiée pour lecture par le public sur le site web de Industrie Canada à : <http://www.ic.gc.ca/eic/site/smt-gst.nsf/fra/sf10715.html>.

Nous encourageons nos membres à la lire.

Norm Rashleigh, VE3LC – Représentant de RAC au Conseil consultatif canadien de la radio (CCCR)

## RAC Director for Ontario South

Congratulations are extended to Mr. Rod Hardman, VE3RHF, who was recently acclaimed as the RAC Director for Ontario South. His term as Director will be for the two years starting January 1, 2014 and ending December 31, 2015.

Al Masse, VE3CWP  
RAC Corporate Secretary

## Directeur de RAC pour Ontario sud

Nous adressons nos félicitations à M. Rod Hardman, VE3RHF, qui a été récemment proclamé directeur de RAC pour Ontario Sud. Son mandat en tant que directeur sera de deux ans débutant le 1<sup>er</sup> janvier 2014 et se terminant le 31 décembre 2015.

Al Masse, VE3CWP  
Secrétaire corporatif de RAC

## RAC Election of Officers

At its regular monthly meeting, the Board of Directors representing the Radio Amateurs of Canada elected the following officers for a two-year term beginning January 1, 2014 and ending December 31, 2015

- President: Geoff Bawden, VE4BAW
- First Vice-President and Regulatory Affairs: Glenn MacDonell, VE3XRA
- Chief Information and Technology Officer: Paul Burggraaf, VO1PRB
- International Affairs Officer: George Gorsline, VE3YV
- Chief Field Services Officer: Doug Mercer, VO1DTM/VO1DM
- Honorary Counsel: Marcel Mongeon, VA3DDD
- Treasurer: Dorothy E. Brown, VA7DBR
- Corporate Secretary: Al Masse, VE3CWP

Al Masse, VE3CWP  
RAC Corporate Secretary

## Élection des membres de la direction de RAC

Lors de sa réunion mensuelle régulière, le conseil des directeurs représentant Radio Amateurs du Canada a élu les membres de la direction suivants pour un terme de deux ans débutant le 1<sup>er</sup> janvier 2014 et se terminant le 31 décembre 2015.

- Président : Geoff Bawden, VE4BAW
- Premier vice-président : Glenn MacDonell, VE3XRA
- Responsable en chef, technologie et information : Paul Burggraaf, VO1PRB
- Responsable des affaires internationales : George Gorsline, VE3YV
- Responsable en chef, services extérieurs : Doug Mercer, VO1DTM/VO1DM
- Conseiller honoraire : Marcel Mongeon, VA3DDD
- Trésorière : Dorothy E. Brown, VA7DBR
- Secrétaire corporatif : Al Masse, VE3CWP

Al Masse, VE3CWP  
Secrétaire corporatif de RAC

## RAC Member Recognition Program

In an effort to properly recognize our valued volunteers, a committee has been struck to manage the RAC Member Recognition Program (MRP). We recognize that many of you have given tirelessly of your time on our behalf for many years, and it's time that we "put you on a pedestal" and say thank you.

**Individual Award:** Any full member of RAC is eligible to nominate a fellow member for an MRP award. All you need is to provide a short essay on why you think that your candidate is deserving. Send it along to one of committee members listed below.

**Extraordinary Award:** You may know of an individual or group that has gone above and beyond the call of duty. These folks will be recognized in a special way.

Committee members: Jeffrey Stewart, VA3WXM ([va3wxm@sympatico.ca](mailto:va3wxm@sympatico.ca)), Doug Mercer, VO1DM ([vo1dtm@rac.ca](mailto:vo1dtm@rac.ca)), Normand Pitre, VE2NHK ([ve2nhk@rac.ca](mailto:ve2nhk@rac.ca))

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## First RAC Member Recognition Award (MRA)

I am pleased to advise that Jeff Dovyak, VE4MBQ, has been nominated to receive our first RAC Member Recognition Award. An Amateur since 1994, Jeff has been very active with Winnipeg ARES and has been the Emergency Coordinator for Winnipeg since 1994, where he resides with his wife Rhonda. Look for a full report in an upcoming TCA. Congratulations Jeff.

Doug Mercer, VO1DTM/VO1DM CEC  
RAC Chief Field Services Officer

## Programme de reconnaissance de membres de RAC

Dans le but de reconnaître de façon appropriée nos estimés bénévoles, un comité a été formé pour gérer le Programme de reconnaissance de membres (PRM) de RAC. Nous reconnaissons que beaucoup d'entre vous avez infatigablement donné de votre temps pour nous pendant de nombreuses années, et il est temps que nous vous "hissions sur le podium" et vous disions merci.

**Récompense individuelle :** Tout membre en règle de RAC est admissible pour proposer la candidature d'un autre membre pour une récompense PRM. Tout ce qui est requis est de présenter un court essai sur pourquoi vous pensez que votre candidat est méritant. Faites-le parvenir à un des membres du comité énumérés ci-après.

**Récompense extraordinaire :** Vous pourriez connaître une personne ou un groupe qui s'est rendu plus haut et au-delà de son devoir. Ces individus seront reconnus d'une façon spéciale.

Membres du comité : Jeffrey Stewart, VA3WXM ([va3wxm@sympatico.ca](mailto:va3wxm@sympatico.ca)), Doug Mercer, VO1DM ([vo1dtm@rac.ca](mailto:vo1dtm@rac.ca)), Normand Pitre, VE2NHK ([ve2nhk@rac.ca](mailto:ve2nhk@rac.ca))

## Première reconnaissance officielle de membre du RAC (ROM)

Je suis heureux de vous aviser que Monsieur Jeff Dovyak VE4MBQ, est en nomination pour recevoir la première reconnaissance officielle de membre du RAC. Un opérateur radioamateur depuis 1994, Jeff a été très impliqué avec le ARES Winnipeg et en est le coordinateur d'urgence pour cette ville depuis 1994 ou il y habite avec son épouse Rhonda.

Félicitations Jeff.

Doug Mercer, VO1DTM/VO1DM CEC  
Responsable en chef des services extérieurs  
Radio Amateurs du Canada



**Geoff Bawden, VE4BAW**  
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## BILL AND GEOFF'S EXCELLENT ADVENTURE

During an email exchange with an Amateur in British Columbia, I stated "I need to make plans to get out to BC. I haven't been there in years and I have never been there as RAC President". Our BC/Yukon Regional Director Bill Gipps, VE7XS, emailed me and asked "did you mean that?" and Bill and Geoff's Excellent BC Adventure was born.

Bill reached out to clubs throughout the Lower Mainland and Vancouver Island and asked whether there would be any interest in the two of us coming out to their clubs and making a presentation. The answer was yes – in fact there was a great deal of interest in hearing what RAC was up to. This would also be a good time to promote our 2014 Annual General Meeting which will be held in New Westminster, BC at the invitation of the Orca DX and Contest Club in conjunction with the Pacific Northwest DX Conference (July 22 to 25; visit <http://orcadxccc.org/vancouver2014/home.html>).

The tour began with my arrival at Abbotsford airport on November 1, being warmly greeted by Langley Amateur Radio Association Past President, Al Munnik, VA7MP. That evening, I gave the first, of many speeches that week, to the Burnaby Amateur Radio Club. The speech contained highlights of the recent AGM Report, which can be found on our website, as well as in the November-December TCA.

The next morning, Bill and I attended breakfast with numerous local Amateur operators, at their regular Saturday 6:30 am meeting. It was followed on Sunday by the Maple Ridge Club's breakfast and Swapmeet and an afternoon visit to the Coquitlam Amateur Radio Club, which made for a pleasant weekend talking radio and RAC.

The following few days comprised of visits and speeches to the Chilliwack ARC, the Vancouver Emergency Community Telecommunications Organization (including a tour of the Vancouver EOC), Abbotsford ARC, North Shore ARC and a tour of their Emergency Operations Centre.

On Friday, a ferry ride to Vancouver Island and a meeting was held in Victoria with Emergency Management British Columbia (EMBC) including a tour of their facility. EMBC, by the way reiterated their support for the 60 metre allocation, which was originally advanced by RAC.

The meeting with EMBC and earlier with the Vancouver EOC staff was a real education. Each municipality has a sophisticated EOC and most have an associated radio club operation. There are provincial EOCs across the province. BC faces a wide range of potential threats such as earthquakes, volcanoes, tsunamis, fires and severe weather. Apparently, a significant number of people get lost in beautiful and rugged BC and they have a large and sophisticated Search and Rescue organization. Amateurs are involved across the province providing support to their communities.

## L'EXCELLENTE AVENTURE DE BILL ET GEOFF!

Lors d'un échange de courriels avec un amateur de Colombie-Britannique, je me suis dit qu'il me fallait trouver des raisons pour me rendre en C.-B. Je n'y étais allé depuis des années, et jamais à titre de président de RAC. Notre directeur de la région BC/Yukon, Bill Gipps, VE7XS, m'a envoyé un message courriel en me disant « ça vous intéresse vraiment » et la belle aventure de Bill et Geoff prenait vie!

Bill s'est rendu aux clubs des territoires du sud de la province (Lower Mainland) et de l'île de Vancouver et s'est informé auprès des responsables afin de savoir s'ils étaient intéressés à nous recevoir pour une présentation. La réponse fut oui – dans les faits il y avait un intérêt marqué pour la venue de RAC. C'était aussi une bonne occasion de faire la promotion de notre Assemblée générale annuelle de 2014 à New Westminster, C.-B., une invitation conjointe du Orca DX and Contest Club et de la Pacific Northwest DX Conference (du 22 au 25 juillet – aller à <http://orcadxccc.org/vancouver2014/home.html>).

La tournée débuta dès mon arrivée à l'aéroport d'Abbotsford le 1<sup>er</sup> novembre par l'accueil chaleureux de l'ancien président de la Langley Amateur Radio Association, Al Munnik, VA7MP. Ce soir-là j'ai prononcé au Burnaby Amateur Radio Club la première de mes nombreuses conférences de la semaine. La présentation faisait état des principaux points du dernier rapport de l'AGM. On peut lire le rapport sur notre site web ou dans le TCA de novembre - décembre.

Le matin suivant, lors de leur réunion régulière du samedi à 6 h30, Bill et moi avons déjeuné avec de nombreux amateurs locaux. Par la suite, le dimanche, ce fut un déjeuner de discussion avec les gens du Maple Ridge Club et dans l'après-midi, une visite au Coquitlam Amateur Radio Club; ce qui nous a valu une fin de semaine très intéressante à discuter de radio et de RAC.

Les jours suivants furent employés à visiter et à échanger avec des personnes du Chilliwack ARC, Vancouver Emergency Community Telecommunications Organization (incluant une tournée du Emergency Operations Centre (EOC) de Vancouver), Abbotsford ARC, North Shore ARC et une visite à leur EOC.

Le vendredi, une balade en traversier vers l'Île de Vancouver et une réunion avec le Emergency Management British Columbia (EMBC), nous permettant de visiter leur installation à Victoria, eurent lieu. EMBC, incidemment, nous réitéra son soutien pour l'allocation du 60 mètres, demandée initialement par RAC.

La réunion avec l'EMBC, et celle plus tôt avec le personnel du Vancouver EOC furent réellement éducatives. Chaque municipalité possède un EOC moderne et la plupart ont un club radio associé opérationnel. Il y a plusieurs EOC à travers la province. La C.-B doit composer avec la possibilité de plusieurs menaces potentielles telles que des tremblements de terre, éruptions volcaniques, tsunamis, feux et conditions atmosphériques souvent difficiles. Apparemment, un bon nombre de personnes se perdent dans la belle et rude C.-B! La province se doit donc de posséder une organisation de recherche et de secours vaste et efficace. Les amateurs sont impliqués partout dans la province en fournissant aide et soutien à leur communauté.

Comme dernier événement, le Cowichan Valley Amateur Radio Society (CVARS) nous a accueillis, Bill et moi, et invité plus de 12 clubs à participer à une réunion le samedi matin à Duncan, C.-B. Nous avons eu un beau souper le soir précédent avec l'exécutif du club local. Le président de CVARS, Dale Jones, VE7JP, a vu à



As a closing event, the Cowichan Valley Amateur Radio Society (CVARS) hosted Bill and I, and invited over 12 clubs to attend a Saturday morning session in Duncan, BC. We had a nice dinner the night before with the local club executive. The CVARS President Dale Jones, VE7JP, had stepped up to the task of organizing that Saturday meeting. This was a significant logistical task as Amateurs from all over Vancouver Island attended. At the meeting I announced that the 2014 RAC AGM will take place the end of July 2014 in New Westminster (a suburb of Vancouver) at the same time as the Pacific Northwest DX Conference, which will be hosted by the local Orca DX and Contest Club.

A big thank you goes out to all the various club volunteers who made this trip such a success, and a special thanks to Bill Gipps, VE7XS, for inviting me and arranging the itinerary, and to his wife Judy for the hospitality they personally extended. We weren't able to visit everyone, but we certainly enjoyed those we did get to meet.

Trips such as these bring RAC closer to the grassroots membership and offers all a very unique opportunity. My trip to BC affirmed what I already knew: that BC has a large, competent and sophisticated Amateur population. The two things that I like the most are competence and character, and by character I mean good character.

There will likely be more of these trips, to different parts of Canada, going forward as I believe that there is absolute value in doing these visits to local Amateurs across Canada.

## THANKS FOR YOUR MESSAGES

Recently, I received an email from an individual that felt that he was being excluded from club activities due to his lack of mobility and physical issues. He noted that there were few supports for persons with physical disabilities and felt excluded from Amateur Radio organizations due to his disabilities.

One of the many things that attracted me to Amateur Radio was its inherent inclusiveness. I know senior hams (some very senior ones!), young hams (less than 10 years old), blind hams, deaf hams and mute hams – and race, religion and sexual preferences are irrelevant to the operation of radio equipment. In my view the only prerequisite regarding participation should be competence and character. Amateur Radio should be a civil pursuit open and supportive to any ham, and by civil I mean practised with civility. I have heard stories of new hams being frozen out of nets or poked fun at for “newbie” errors instead of that error being treated as a “teaching moment”. Now the law of human nature has not been repealed and we Amateurs are as human as anyone else. We must strive to grow this great activity by being open to all and being supportive. Reach out and help a newbie, support someone that needs some help due to some “incapacity” and help grow new hams by continuing to make Amateur Radio accessible.

There was also a recent email asking that we stop linking our website to a particular club's website because they were linked to a blog that made unfortunate remarks about individuals. I was sympathetic but RAC cannot police the Internet – and also blogs are almost invariably just one man's opinion and usually does not represent the formal view of any organization. It can be frustrating (but surely not surprising!) that inaccurate information can be found on the Internet and that a blog may contain inaccuracies.

l'organisation de cette réunion du samedi; une tâche d'envergure, d'une logistique importante, puisqu'il fallait inviter tous les amateurs de l'Île de Vancouver. À la réunion, j'ai annoncé la tenue de l'AGM de RAC en 2014, à la fin de juillet, à New Westminster (une banlieue de Vancouver) en même temps que la conférence Pacific Northwest DX. L'hôte sera le Orca DX and Contest Club local.

Un gros merci à tous les bénévoles de nos clubs qui ont contribué au succès de notre tournée, et un remerciement spécial à Bill Gipps, VE7XS, de m'avoir invité et organisé mon itinéraire, et à son épouse Judy pour son hospitalité. Il nous était impossible de visiter tout le monde, mais nous avons éprouvé beaucoup de plaisir à rencontrer ceux qui sont venus nous voir.

Des tournées comme celle-là, « au ras des pâquerettes », ont pour effet d'amener plus de membres chez RAC, tout en leur offrant des occasions de rencontres uniques. Mon voyage en CB confirme ce que je savais déjà : que la C.-B possède un nombre important d'amateurs compétents et raffinés. Les deux choses que j'aime le plus chez un amateur sont la compétence et le comportement, et par comportement je veux dire un bon comportement.

Il y aura probablement d'autres tournées de ce genre dans les autres parties du Canada. Je pense que ces visites sont très utiles et d'une valeur indiscutable pour les amateurs locaux partout au Canada.

## MERCI POUR VOS MESSAGES

Récemment, j'ai reçu un courriel d'un individu qui s'estimait exclu des activités de son club en raison de son manque de mobilité et de son incapacité physique. Il me fit remarquer qu'il y avait peu de soutien pour les personnes victimes d'incapacités physiques et le sentiment qu'il n'a pas de place pour lui dans les organisations radioamateurs.

Une des nombreuses choses qui m'ont attiré dans le radioamateurisme est sa capacité d'inclusion. Je connais de vieux amateurs (certains très vieux!), de jeunes amateurs (moins de dix ans), des amateurs aveugles, sourds et muets – de race, religion et orientation sexuelle différentes – qui seraient normalement inaptes à l'usage de l'équipement radio. Selon moi, les seuls critères de participation sont la compétence et le bon comportement. Le radioamateurisme doit être ouvert à tous ceux qui veulent le pratiquer avec civilité et qui sont prêts à soutenir les autres amateurs. J'ai entendu des histoires relatant que des nouveaux amateurs se sentaient mis à l'écart des réseaux et privés du plaisir de la radio amateur en raison d'erreurs de débutant; alors que ces erreurs eussent pu être l'occasion de bons moments pédagogiques. La nature humaine est la même pour tous et nous, amateurs, sommes des humains comme n'importe qui. Nous devons nous efforcer de faire grandir notre activité en étant ouverts à tous. Aider un débutant ou quiconque a besoin d'aide en raison d'incapacité, ou encore assister un nouvel amateur dans son apprentissage, c'est continuer de rendre la radio amateur accessible à tous.

Nous avons reçu récemment un courriel qui nous demandait de mettre fin au lien de notre site web avec le site d'un club particulier, celui-ci étant relié à un blogue qui propageait des remarques personnelles désobligeantes. Je suis sympathique à cette demande mais RAC ne peut policer Internet – et aussi, ces blogues ne sont habituellement l'opinion que d'une seule personne qui de façon générale ne représente pas le point de vue officiel de l'organisation. Cela est frustrant (mais ne me surprend pas) que de l'information incorrecte circule sur internet et que des blogues l'hébergent.

## CHANGES TO RAC MANAGEMENT TEAM

After many years of enthusiastic service Norm Rashleigh, VE3LC, has moved on from his role as RAC appointment to the Radio Advisory Board of Canada (RABC). RABC is an organization composed of key spectrum users which advises Industry Canada on issues relating to spectrum management in this country. Norm was quick to note issues of interest to Amateurs and ensure that RAC had its position prepared. Glenn MacDonnell will take over from Norm on this file in addition to his new role as Vice President. Norm has committed to "work in the background" to ensure continuity and quality on our work with RABC and he also continues his work on the Editorial Review Council which acts as an advisor to the TCA Editor.

I am pleased to welcome RAC's new Treasurer Dorothy Brown, VA7DBR, to our team. We beat the fiscal monster in 2012, but we need to keep a close eye on it to ensure it stays moribund and Dorothy will play an important role in this endeavour. She has a proven track record, professional credentials and comes well recommended as you will see from her bio on page 11. She has also volunteered with a number of organizations including serving as a Director of her local CGA Chapter.

I would like to acknowledge the historic role and significant contribution that Ian MacFarquhar, VE9IM, has made to Radio Amateurs of Canada. He has served a yeoman's role as Vice-President. Uniquely, he served as President on an interim basis twice during his position as Vice-President. In fact, I followed Ian into the role of President. He is very well connected across the Amateur community and well acquainted with the key issues facing RAC and his advice and hard work is well respected. He provided leadership on many files including the tough insurance file. When we were dropped with little notice by our previous vendor he led the team to explore new options. After years of service to RAC, Ian has decided to stop down but he has committed to work hard to support RAC. I will personally miss him in his role as Vice-President.

Lastly, I would like to welcome Glenn Macdonnell, VE3XRA, as our new Vice-President and Regulatory Affairs Officer. During his working career he was employed by the Government of Canada in various departments as diverse as Environment and Foreign Affairs. As described in his bio on page 11, Glenn was also an advisor on industrial development and international cooperation related to Canada's space program and he served as Director Aerospace, Director Energy and Director Environmental Industries with Industry Canada. In 2011, he was elected President of the Ottawa Amateur Radio Club, a position he continues to hold. Glenn was appointed Deputy Director Ontario North/East in April 2012.

## NEW SOUTHERN ONTARIO DIRECTOR

I am looking forward to working with our new Director for Ontario South, Rod Hardman, VE3RNH, who took up the challenge on January 1, 2014. Rod has been the President of the Oakville Amateur Radio Club for the past three years. He is a D-Star enthusiast, an occasional tester, and a student of the Raspberry Pi platform (see page 11).

I look forward to working with the new RAC Team over the next two years.

Until next time...

*Geoff Bawden, VE4BAW – RAC President and Chair*

## DES CHANGEMENTS DANS L'ÉQUIPE ADMINISTRATIVE DE RAC

Après plusieurs années d'un bon et dévoué service, Norm Rashleigh, VE3LC, quitte RAC pour passer au service du Radio Advisory Board of Canada (RABC). RABC est une organisation composée d'utilisateurs importants du spectre, dont le rôle est de conseiller Industrie Canada sur les enjeux reliés à l'administration du spectre au pays. Norm n'a pas tardé à noter les points d'intérêt pour les amateurs et à s'assurer que RAC est bien préparé à jouer son rôle au RABC. Glenn MacDonnell remplacera Norm dans ses fonctions tout en assumant son nouveau rôle de vice-président et Agent des affaires réglementaires. Norm a convenu de travailler discrètement pour assurer la continuité et la qualité de notre travail avec RABC. Il poursuivra aussi son travail au Editorial Review Council à titre de conseiller de l'éditeur de RAC.

Je souhaite la bienvenue à notre nouvelle trésorière Dorothy Brown, VA7DBR. Nous avons surmonté notre "monstre fiscal" en 2012, mais nous devons garder l'oeil ouvert pour nous assurer qu'il demeure KO; madame Brown nous y aidera. Elle possède des états de services probants, des lettres de créance professionnelles et nous est bien recommandée comme le montre sa biographie à la page 11. Elle a aussi fait du bénévolat dans plusieurs organisations et été directrice de sa section locale des CGA (Comptables généraux associés)

J'aimerais vous faire part du rôle historique et de la contribution significative de Ian MacFarquhar, VE9IM, à Radio Amateurs du Canada. Il a joué un rôle de « gardien du fort » comme vice-président. Fait unique, il a occupé le poste de président par intérim deux fois durant son mandat de vice-président. En fait, c'est moi qui l'ai remplacé comme président. Il possède des liens nombreux dans la communauté radioamateur et est rompu aux enjeux principaux impliquant RAC. Ses conseils et son travail ardu sont fortement respectés. Il a démontré son leadership dans plusieurs dossiers dont celui difficile de l'assurance. Quand nous avons été « lâchés » presque sans avertissement par notre assureur précédent, il a dirigé l'équipe vers de nouvelles options. Après des années au service de RAC, Ian a décidé de quitter son poste mais, il a promis de travailler fort au soutien de RAC. Il me manquera personnellement comme vice-président.

Finalement, j'aimerais souhaiter la bienvenue à Glenn Macdonnell, VE3XRA, au poste de nouveau vice-président et Agent des affaires réglementaires. Durant sa carrière il a travaillé pour le gouvernement du Canada dans plusieurs ministères tels que l'Environnement et les Affaires étrangères. Comme vous pourrez le lire dans sa biographie à la page 11, Glenn était aussi un conseiller en développement industriel et en coopération internationale relativement au programme spatial du Canada. Il a été directeur de l'Aérospatiale, de l'Énergie et des Industries environnementales à Industrie Canada. En 2011, il a été élu président du Ottawa Amateur Radio Club, un poste qu'il continue d'occuper. Glenn a été nommé assistant directeur pour l'Ontario du nord-est en avril 2012.

## NOUVEAU DIRECTEUR POUR LE SUD DE L'ONTARIO

J'anticipe le plaisir de travailler avec notre nouveau directeur pour le sud de l'Ontario, Rod Hardman, VE3RNH. Il relèvera ce défi à partir du 1<sup>er</sup> janvier 2014. Rod a été le président du Oakville Amateur Radio Club durant les trois dernières années. Il est un fan de D-Star, un contestataire à l'occasion et un étudiant usager de la plate-forme Raspberry Pi (voir la page 11).

Je suis heureux de travailler avec la nouvelle équipe de RAC durant les deux prochaines années.

À la prochaine fois...

*Geoff Bawden, VE4BAW – RAC Président-directeur général*

– Traduction par Claude Lalande, VE2LCF



# POWER UTILITY SECTOR VOICES OPPOSITION TO THE NEW AMATEUR RADIO MF ALLOCATION

Prepared by Norm Rashleigh, VE3LC and Bryan Rawlings, VE3QN

Over the past five years, *The Canadian Amateur* magazine has published several reports from Bryan Rawlings, VE3QN, about the ITU proceedings leading up to WRC-12 (February 2012) and specifically agenda item 1.23 to do with securing a Medium Frequency (MF) Amateur allocation; this was made possible with the discontinuance of maritime communications in this portion of the spectrum along with the diminished use of aeronautical "non directional beacons". The outcome of WRC-12 resulted in a worldwide secondary allocation for the Amateur service of 472 to 479 kHz. In the international working groups and proceedings for this agenda item, the Canadian delegation at the conference was a strong supporter for this allocation. In the initial stages of the study process, the domestic power utilities were consulted about potential compatibility issues with Power Line Carrier (PLC) technology that remains in limited use for circuit fault mitigation signaling by some power companies. These consultations however did not result in a sustained concern or opposition by the utilities sector at the working group meetings allowing Canada to move forward with support for the new MF Amateur band at the international level.

As a matter of standard practice following World Radio Conferences, Industry Canada released a public consultation on the "Proposed Revisions to the Canadian Table of Frequency Allocations" (CTFA). This was posted as Canadian *Gazette* notice SMSE-004-13, on June 13, 2013. Public comments were invited for submission by September 27. The proposed revisions indeed included a domestic secondary Amateur allocation of 472 to 479 kHz with a limit of 5 watts EIRP (effective radiated power relative to an isotropic radiator). This power restriction was consistent with the footnotes for the new worldwide allocation approved at WRC-12. The comments to the consultation from the eight organizations and the three individuals that responded have now been posted on the Industry Canada website for public viewing at: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10704.html>

The Amateur respondents included: the Marconi Radio Club of Newfoundland; the Quarter Century Wireless Association, Chapter 70, Ottawa; the West Carleton Amateur Radio Club; and, of course, Radio Amateurs of Canada. The three individual respondents were David Goodwin, VE3AAQ (former President of RAC), Doug Leach, VE3XK, and

Mike Kelly, VE3FFK. And naturally, the Amateur organizations and individuals voiced no opposition to the 472 to 479 kHz allocation. However, the association of power utilities on such matters known as the "Utilities Telecom Council of Canada" (UTC-C) did voice concern specifically about the new proposed domestic MF Amateur allocation in their six-page submission to the Department and wrote in the opening preamble of their letter stating:

*"As explained more fully below, (in their letter) UTC Canada respectfully requests that Industry Canada not adopt the proposed allocation, due to potential interference to powerline carrier systems that operate in the 472 – 479 kHz band and that are used to protect the transmission grid from faults that can cause massive blackouts."*

You can see the entire UTC-C response at: [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/SMSE-004-13\\_UTCC\\_comments.pdf/\\$FILE/SMSE-004-13\\_UTCC\\_comments.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/SMSE-004-13_UTCC_comments.pdf/$FILE/SMSE-004-13_UTCC_comments.pdf)

This response was indeed a surprise and concern to the regulatory committee of Radio Amateurs of Canada, and I'm sure to those Canadian delegation members to WRC-12 that contributed to the requisite study and working parties that successfully advanced and won international support for the new worldwide MF Amateur allocation. Surprise also because there did not seem to be any opposition during post conference Working Group session convened by the Radio Advisory Board of Canada (RABC) to review and provide comment to Industry Canada in response to their CTFA consultation. There was both a RAC and UTC-C representative attending the RABC Working Group session on the subject. The outcome of this RABC working group is reflected in the RABC response can be seen at: [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/SMSE-004-13\\_RABC\\_comments.pdf/\\$FILE/SMSE-004-13\\_RABC\\_comments.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/SMSE-004-13_RABC_comments.pdf/$FILE/SMSE-004-13_RABC_comments.pdf)

The RABC response to Industry Canada stated: *"The Board agrees with the changes proposed."* This, of course, was inclusive in accepting the new Amateur 472 to 479 kHz allocation with no opposition. The RABC letter also showed the response of the Ballot score from RABC member organizations that included the Utilities Telecom Council Canada and Radio Amateurs of Canada. There was unanimous approval from the 11 out of 20 members that choose to vote along with comments from two RABC members, UTC-Canada and RAC. Strangely, however, UTC-C included opposing

comments to the MF Amateur allocation along with their RABC ballot vote approving the "changes proposed" (by IC) to the CTFA. We are not sure how this will be taken by Industry Canada in making their decision.

In defense for approval of an Amateur allocation of 472 to 479 kHz being included in the Canadian Table, we believe the stance and reasoning of the Utilities Telecom Council in their letter to be overstated. It is RAC's understanding, based on working with the representatives of the power utilities and Industry Canada before WRC-12, that the remaining deployment of PLC systems is quite limited and being phased out with systems using robust fibre optic transmission technology which is immune to RF interference from all sources. And even so, based on research and study, the susceptibility of PLC systems to RF signals from Radio Amateurs at the separation distances and power levels expected, should the band be approved, would be negligible. Indeed, the effect of Amateur signals on PLC systems was tested prior to granting the 135 kHz band with no serious consequences.

In addition, we all should appreciate that the uptake on the use of this new MF band by the Amateur community will be slow and limited to a group of Amateur Radio enthusiasts investigating the short and long range potentials of this unique spectrum space. The band will never be used for conventional voice communications because the allocation is only 7 kHz wide. Instead, we envisage this band being used only by technically Advanced Radio Amateurs using self-built equipment and employing some of the new very narrowband digital modulation techniques that have the ability to receive deep into the noise.

At this time, considering the late stage of opposition revealed by the Utilities Telecom Council to an Amateur band at 472 to 479 kHz, we at RAC, although concerned, remain confident about a favourable decision from Industry Canada and trust it will be based on all the good work and study of almost five years at the preconference Working Group meetings. However, Radio Amateurs of Canada will have ready a defence based on good reasoning and scientific determination in case it is needed. We expect a decision from Industry Canada in 2014.

## References:

Gazette Notice SMSE-004-13 Consultation on the Proposed Revision to the Canadian Table of Frequency Allocations: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10655.html>

Comments Received on SMSE-004-13 above: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10704.html>

# KEN PULFER, VE3PU, AND EARLE SMITH, VE6NM, APPOINTED TO THE CANADIAN AMATEUR RADIO HALL OF FAME

*Submitted by Ed Frazer, VE7EF  
Chair, Board of Trustees  
Canadian Amateur Radio Hall of Fame*

The Trustees of the Canadian Amateur Radio Hall of Fame have appointed Ken Pulfer, VE3PU (SK) and Earle Smith, VE6NM (SK) to the Hall of Fame for the year 2013.

The Constitution for the Hall of Fame specifies that appointments are made "for outstanding achievement and excellence of the highest degree, for serious and sustained service to Amateur Radio in Canada, or to Amateur Radio at large".

A recent change to the constitution for the Hall permitted Trustees to make two appointments if at least one of the nominees was a Silent Key.

## KEN PULFER, VE3PU

This appointment recognizes Ken Pulfer's six decades of outstanding service to Amateur Radio and science in Canada.

Ken was an active DXer and Amateur Radio experimenter. He participated in Ottawa-area Amateur Radio clubs, and often spoke to them on technological developments.

From 1993 to 2006, Ken participated in the establishment and operation of Radio Amateurs of Canada. He served as Secretary, Treasurer, Vice-President Government Affairs, Vice-President International Affairs and on numerous RAC committees, including the Amateur Delegation Working Group in 1993-1997 that examined the possibility of RAC assuming the administration of the Amateur Service in Canada.

Professionally, Ken was an electrical engineer and enjoyed a 37-year career with the National Research Council in Ottawa. Ken was a founder of the Canadian Manned Space Program including the successful Canadian Astronaut Program and Canadian participation in the International Space Station. He was one of two Canadians on the Board for Amateur Radio on the International Space Station (ARISS).

Ken represented RAC, Canada and the International Amateur Radio Union in the United Nation's International Telecommunication Union and at World Radiocommunication Conferences (WRCs) from 2000 to 2012. He was instrumental in the successful expansion of the 40 metre band in 2003, protection of satellite frequencies at 432 MHz and the allocations to the Amateur Service at LF and MF.

Ken Pulfer's achievements as a professional engineer and as a dedicated Radio Amateur have enriched both the workplace and the Amateur Radio hobby. Internationally, he has reflected great credit on Canada.

Ken passed away on March 31, 2013 after a short illness at the age of 80. A detailed account of his achievements can be found in the May/June 2013 issue of TCA.



Ken Pulfer, VE3PU and Earle Smith, VE6NM, at the 2005 RAC Board Meeting.

## EARLE SMITH, VE6NM

The appointment of Earle Smith to the Hall of Fame recognizes his many years of service to Amateur Radio in Canada and internationally. He was an active Radio Amateur since 1948 and he served as President of Radio Amateurs of Canada from 2004 to 2007.

Earle served in executive positions with the Amateur Radio League of Alberta (ARLA), the Canadian Radio Relay League (CRRL), and later with the Canadian Amateur Radio Federation (CARF). He worked tirelessly for the merger of CARF and CRRL to form Radio Amateurs of Canada. Before becoming RAC President, Earle was RAC Director for Alberta/NWT/Nunavut.

As RAC President, he served as the RAC Delegate Team Leader to several International Amateur Radio Union Region 2 conferences.

Earle enlisted at age 17 in the Royal Canadian Air Force. Shortly after, he was one of the crew that established Canadian Forces Station (CFS) Alert and set up the first Amateur Radio station there. It eventually became the famous VE8RCS. He loved operating CW.

Earle was a member of Radio Amateurs of Canada, the Quarter Century Wireless Association (QCWA), the American Radio Relay League and several Amateur clubs across Canada. He said in a bio: "It was a privilege for me, while serving as RAC President, to visit every Canadian Province and Territory, while meeting many Amateurs".

Earle was a passionate Canadian Amateur, a loyal supporter of the Amateur Service in Canada and internationally, and he was admired for his calm demeanor and his ability to form a consensus on difficult issues.

Earle passed away on February 24, 2012 at the age of 81. A detailed account of his achievements was published in the May/June 2012 issue of TCA magazine.

Later this year, Hall of Fame presentations will be made in Ottawa to the family of Ken Pulfer, and in Grande Prairie to the family of Earle Smith. Notices of the events will be published in a RAC Bulletin.



## WELCOME ABOARD THE RAC TEAM FOR 2014

### **Rod Hardman, VE3RHF** **RAC Director Ontario South**

Rod became interested in Amateur Radio in the late 70s, peering over the shoulder of neighbour Lou Champagne, VE3ALB, but the code and a detour to Silicon Valley deferred his HF ambitions until 2009 when he finally became an Amateur.

Rod holds Basic with Honours and Advanced qualifications along with the RAC Certified Emergency Coordinator (CEC) ticket.

Rod has been the President of the Oakville Amateur Radio Club for the past three years. He is a D-Star enthusiast, an occasional tester, and a student of the Raspberry Pi platform. Education is a keen topic for him.

In his day job, Rod is a Product Manager, leading a team of software developers in an Agile framework. He tries to build cool stuff. He sometimes succeeds.

On the homefront, Rod is supported by his lovely wife Laurie and his two daughters Emma (10) and Olivia (6). The girls are mad about electronics and Dad is pretty pleased with that!

### **Glenn MacDonell, VE3XRA** **RAC Vice-President and** **Regulatory Affairs Officer**

Glenn obtained his Basic Amateur certificate with honours in 2008 and obtained his Advanced Amateur certification in 2009.

During his working career he was employed by the Government of Canada in various departments as diverse as Environment and Foreign Affairs. He was also an advisor on industrial development and international cooperation related to Canada's space program (Space Station, RADARSAT 1 and RADARSAT 2, space science and satellite telecommunications) and served as Director Aerospace, Director Energy and Director Environmental Industries in Industry Canada.

Once Glenn obtained his Certificate, he joined several Ottawa Amateur clubs and has served in various Executive positions.

In 2011, he was elected President of the Ottawa Amateur Radio Club, a position he continues to hold.

Glenn was appointed Deputy Director Ontario North/East in April 2012.

### **Dorothy Brown, VA7DBR** **RAC Treasurer**

Dorothy Brown is originally from England but moved to Canada in 1980. In 1981, she embarked on the Certified General Accountants (CGA) program and she received her designation in 1988.

Most of her career was spent in public practice, providing accounting, assurance and taxation services to a variety of corporations and not-for-profit organizations as well as individuals.

She has volunteered with a number of organizations including serving as a Director of her local CGA Chapter, as Treasurer of the Lower Mainland Yacht Co-op, as Treasurer of the Boundary Bay Flying Club, and as Secretary and Treasurer of the Bluewater Cruising Association.

She became an Amateur in 2010 and appreciates being able to check in with the Great Northern Boaters Net while exploring the BC coast on her sailboat.

## WILLIAM EDWIN (ED) MORGAN, VE3GX (SK): IN MEMORIAM

Ed Morgan passed away in Ottawa in his 93rd year on November 1, 2013. He leaves behind Doreen, VE3CGO, his wife of 64 years, four children (Bill, Paul, Lynda and Janet) (Andrew) and three grandchildren (Krystin, Devon and Janson).

Ed obtained his Amateur Radio licence at the tender age of 17. He remained an active and enthusiastic hobbyist for the next 75 years. He was especially fond of CW. He was often seen operating mobile CW on HF while Doreen drove him around. Ed was a life member of the Ottawa Valley Mobile Radio Club (OVMRC). He was also an active member of the Quarter Century Wireless Association. The photo on the right shows QCWA President Ken Oelke, VE6AFO, presenting Ed with a certificate and pin in recognition of 75 years of operating.

During WWII, Ed served as a wireless and electrical mechanic (radio). He installed, maintained and repaired radar equipment, one of the War's biggest secrets. He was part of the first group of Canadians recruited for training. He trained in England because, at the time, radar training was not offered in Canada. Subsequently, Ed was posted to India and then to Burma where he was awarded the Burma Star.

Recollections of the time that Ed spent in India and Burma appear in *Canadians on Radar in South East Asia 1941-1945*, part



of the Canadian Radar History Project. After the War, Ed served as Chief Radio Officer aboard the Canadian Coast Guard icebreaker *N.B. McLean*. Later, he served with the Royal Canadian Mounted Police and then with the Department of National Defence and retired after 40 years of service.

Ed was a driving force in the creation of many significant and enduring Amateur Radio projects. In 1957, he was a founding member of the OVMRC. He later served as Club President, editor of the Club newsletter and Club historian. His leadership as chairman of a working group led, in early 1974, to the establishment of the Amateur Radio demonstration station

VE3JW which is a permanent exhibit at the Canada Science and Technology Museum in Ottawa. It was Ed who ensured that the station would be named in honour of James W. Cotter, Canada's first blind Amateur Radio operator. For many years, Ed taught CW to students of Amateur Radio courses sponsored by OVMRC. He also helped students make their first QSOs on voice.

Ed built equipment. He constructed a mobile CW transmitter with which he could reach Doreen from anywhere in Ontario. He was well known for his proficiency with long wires. He assisted some new Amateurs to install this type of antenna in covert locations such as on top of condominium fences.

Over the years, Ed founded, managed or controlled several Amateur Radio nets. He was involved with the antecedent of what is now the ONTARS Net.

He was an active participant in the weekday morning Rubber-Boot VHF Net and in the Pot-Hole Net on 3.760 MHz and in the Pot-Lid slow-speed CW Net on 3.620 MHz, both held on Sunday mornings.

Although he led a full life, one of Ed's proudest accomplishments was having taught Doreen to copy CW at 18 wpm.

*Sandy Haggart, VE3HAZ*  
*President,*  
*Ottawa Valley Mobile Radio Club*



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**Welcome to the 2014** inaugural column dedicated to all operating above 30 MHz.

This is our 26th year of promoting VHF/UHF activity through our national magazine and it's amazing how much has changed technologically in that time.

Over the decades antenna technology has evolved amazingly, digital modes have enabled small EME arrays for true backyard DX and equipment today is much more reliable and stable, albeit a tad harder to work on, but still much better – more bulletproof. In addition one can find a slew of transceivers today that cover at a minimum HF plus Six!

With the development of SDR technology, and high power solid state amplifiers, the days of big iron and big rigs seem to be numbered.

As commercial technologies change too, equipment for microwave operations gets easier to find and easier to utilize, giving a big boost to activity above 1300 MHz.

So, if you have not tried the bands above 30 MHz yet, make 2014 the year to check things out! You will be part of a family of Amateurs around the world who really enjoy doing DX in a challenging fashion.

# SIX METRES AND DOWN

## ARECIBO: UNDER THE DISH

As promised in my last column, here's the rest of my trip report to Puerto Rico, with a little side trip to the 1,000-foot radio telescope – or as the locals call it "El Radar"!

We kind of picked up the cruising bug with the family over the last few years, and this year we had a chance to spend a couple of days in Puerto Rico before sailing.

Of course, being an Amateur and having been involved in EME over the years – including being part of the crew at VE3ONT when we had access to the 50 metre dish at the Algonquin Radio Observatory in the 1990s – one could not simply go to KP4 and not go the Arecibo! 2013 marked the 50th Anniversary of the operation of "El Radar" so we really wanted to get there!

In addition, the trip was made also to remember Dennis, VE3ASO, who was my friend and mentor 45 years ago, and who had made the journey there shortly before he passed away.

With the help of Bob, VE3RKZ (NP4B), we got in touch with Angel, WP3R, who is the Head of Telescope Operations and Spectrum Manager, and set a date.

Getting to the dish is interesting as it's set in the hills south of the City of Arecibo. We had an interesting drive out there, and with the help of a few locals we managed to make all the right and left turns, past the cemetery, up the hill, around a residential area, and down a narrow road into the valley of the dish!

The dish is in a jungle and hilly area so it's not obvious that you are near it until you can see the pylons that hold the cables that support the dish! There was one sign that pointed to the Observatory, but if you weren't looking for it you could miss it! Seeing those enormous pylons though was proof that you were there.



Upon arrival, I had to check into the guard house, sign in and then was escorted into the parking area where Angel was there to meet me. In fact this was the spot where in the movie "Contact" Jodie Foster comes running up the driveway to meet Michael Kitz (James Woods).

We had a great view of the dish and entered the control room, which had changed much since the early days of the KP4BPZ 432 MHz EME operations in 1964 and movies such as James Bond's "Goldeneye", with Pierce Brosnan, and "Contact" with Jodie Foster! Angel commented that he had actually met Jodie Foster, Matthew McConaughey and Pierce Brosnan during the filming.



Having said that, the guys had actually preserved the old control desk and readouts at one end of the control room, while the rest was ultramodern.

**Under the Dish:**  
the new ionospheric  
heater being installed



## The control room

In days past, radio astronomers would come and stay at the dish to do their work. Today, the bunk houses and facilities are still used, however with the Internet and remote control technology a lot of work is done by researchers from the comfort of their offices! However, the ambience of actually being there is something else, if your budget will accommodate it!

Here is a bit of background about the dish. It was completed in 1963 and it is currently operated by Cornell University and the US National Science Foundation. It was a massive engineering project to turn a naturally bowl-shaped valley – in a remote jungle location on a tropical island – into the home of the largest radiotelescope on the planet.

The dish surface itself is made up of 39,000 perforated aluminum plates supported on a web of cables spanning the valley. As such it is not a parabolic shape, but a circular shape, and consequently the point of focus is diffuse, more of a line rather than a point. To make use of this, the feed cabin is suspended above the dish on more cables and can be moved along the focal area via the “azimuth arm” track (it is 300 feet long) which in essence gives you some beam steering capability of 20 degrees off the zenith, since the dish itself is fixed in place. Gain at 432 MHz is on the order of 60 dBi! The feed is 96 feet long and is essentially an open waveguide structure.

The feed cabin houses not only the large 430 MHz antenna, but also includes feeds for operation from 1 to 10 GHz. On 13 cm, the Radar can transmit using 2 MW of CW power at the feed using a pair of Eimac klystrons! (That’s key down, power not peak power!) Now at 13 cm, the gain of the dish is 73 dBi, and the ERP then is on the order of 39,905,246,697,793 watts! Enough to allow astronomers to map the surface of Venus, and observe asteroids with a high degree of resolution, and probably cook a Turkey at 100,000 kilometres! The power supply room for this baby, looks like something out of an old Frankenstein movie, with banks of capacitors, huge insulators and two metal balls that shunt the immense charge to ground on shutdown!



At UHF the antenna is fed by a 1500-foot run of WR 2100 waveguide – very large waveguide (21 X 11 inches) that runs from the feed cabin under the walkway to the transmitter building. For Amateur EME operations, Angel said that they had found a waveguide to “N” flange at an decommissioned DEW line site in Alaska and had brought it down to Puerto Rico and installed it. Angel commented that you could also simply stick a quarter-wave antenna inside the waveguide as well!

All they had to then do was connect the 432 transmitter into the waveguide and voila – off the moon on 432. With that dish, even 10 watts will produce loud EME echoes!

When I was there, the dish was shut down as they had blown one receiver when the isolation door failed to close fully upon key down! Having had that problem here, with 1 kW, I can just imagine the damage 2 MW will do!

Angel took us around the property and under the dish to see the water pumping equipment, necessary to remove rainwater during the rainy season. In addition a new ionospheric heater feed was being installed as well so we had a chance to check that out as well. Hopefully, when this baby gets going, we may see some enhancement on 50 MHz!

With all this, it was pretty neat to see that Amateur Radio was well regarded and supported not only at Arecibo, but throughout the island. I think there is something to be learned in that, with our government(s) here in Canada.

Finally, and all too soon it, was time to say goodbye and we popped into the museum and picked up some souvenirs of the trip and then

headed back to San Juan – tick another thing off my bucket list! My sincere thanks to Angel, WP3R, for taking the time to show us around! Incidentally, if you want to see what the Algonquin Dish looks like, but can’t get to the Park, grab a copy of the movie “The Dish”. It’s set in Australia, during the Apollo moonlanding, and the Parks dish is the sister dish to the one in Algonquin.

The dish group have a club station as well – KP4AO – and hopefully we will see more EME operation from there in the future. The last operation was in 2010 and was written up in QST.

If you get to Puerto Rico, don’t forget to take the drive out to Arecibo.

## VE3FIT 50 MHZ DXCC

Ken, VE3FIT, has achieved the goal of working and confirming 100 countries on 50 MHz. His last two contacts needed were EA8BPX (Canary Islands) and KG4RX (Guantanamo Bay), bringing his confirmed total to 101.

He joins a growing group of Canadians who have made the grade, and we want to recognize and applaud Ken’s work! Here’s a photo of him holding his new certificate #1288.



Ken’s setup includes a 5-element M2 yagi, HB 200 watt linear and a venerable TS-680!

## 50 MHz ACTIVITY REPORTS

Well we had a close call with F2 in November with the solar flux soaring up to 180 for a few days. There was one strong N/S opening on November 9, with signals from the Caribbean and Central America super strong. TI5/N5BEK was actually pinning my K3 S meter for over an hour here at 1600 UTC. VE2XK in FN07 worked the lions share of stations over a two-hour period.

Sadly, the solar activity has not been sustained and things tapered off in December, with the MUF hovering around 40 MHz! So it looks pretty much as we are at the peak of the cycle with the polarity reversal in progress. Cycle 24 is a dud for 50 MHz F2. Let’s hope Cycle 25 is better eh?

– 73, Dana, VE3KU/VE3DSS

# ANTENNAS & TRANSMISSION LINES



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## INTRODUCTION

I have always enjoyed operating portable CW in the summer and fall of each year.

For the past several years I have used full-sized 20 and 17 metre rotating dipoles and a radio capable of transmitting 100 Watts of power, which is powdered from a 35 Ah battery that is quite heavy.

My favourite operating location is the very beautiful Amherst Island located near Kingston, Ontario. It contains a small rural community and is serviced by a ferry boat that operates hourly. Because this is a rural environment, man-made noise levels are extremely low all the times. This makes for great operation in the HF and VHF bands.

Lately, my friends in Ottawa have introduced me to portable QRP operation and all of the fantastic little radios that they use. Some of them are active Summits On The Air (SOTA) operators who do not want to lug 35 Ah

**Note:** This article uses TCA hotlinks to provide access to enriched media from the RAC website. For more information, please go to <http://www.rac.ca/tca>.

## END FED HALFWAVE HF ANTENNAS (Part 1 of 2)

batteries around and who must have very lightweight antennas that they usually construct themselves. One of the more popular and successful antennas that they use is the end fed halfwave antenna (EFHW) that requires a good matching transformer for effective use. The antenna does not require the use of ground radials and is similar to the classic Zepp antenna (see TCA hotlink 1) without the ladder line matching structure.

I built a few end fed antennas and matching transformers to see how they work and to identify any problems that have to be overcome, if any. The transformers that I made are capable of QRP operation up to 5 Watts of power, before the toroid cores overheat, so I operated QRP mainly in the 20 metre band.

The antennas cannot be used with the Elecraft KX3 at 10 Watts but I am working on that problem. Some commercial (see TCA hotlinks 2 and 3) end fed antennas can readily operate at high power levels and can be connected directly to a KX3 for CW operation. The power levels that I am referring to are continuous key down power and not PEP.

This two-part article discuss the performance and limitations of these very popular end fed halfwave (EFHW) antennas. The operating principles are demonstrated by the design and

Figure 1: Antenna Configurations

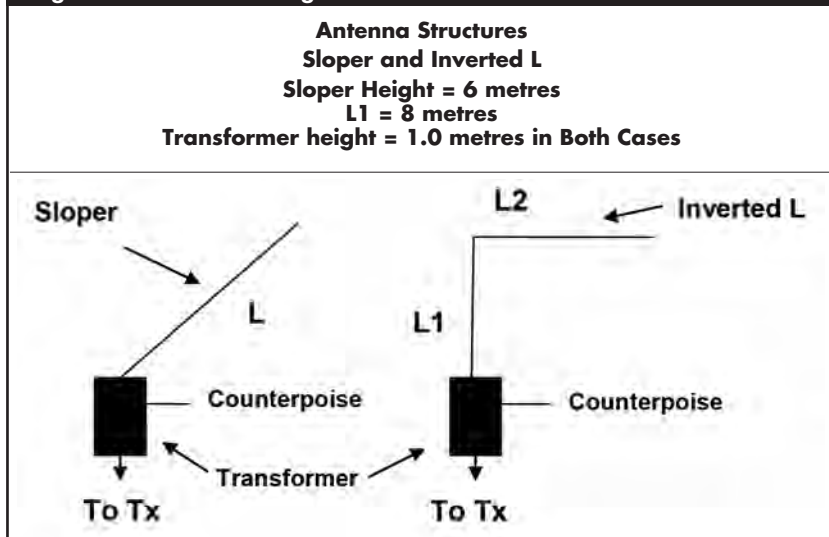
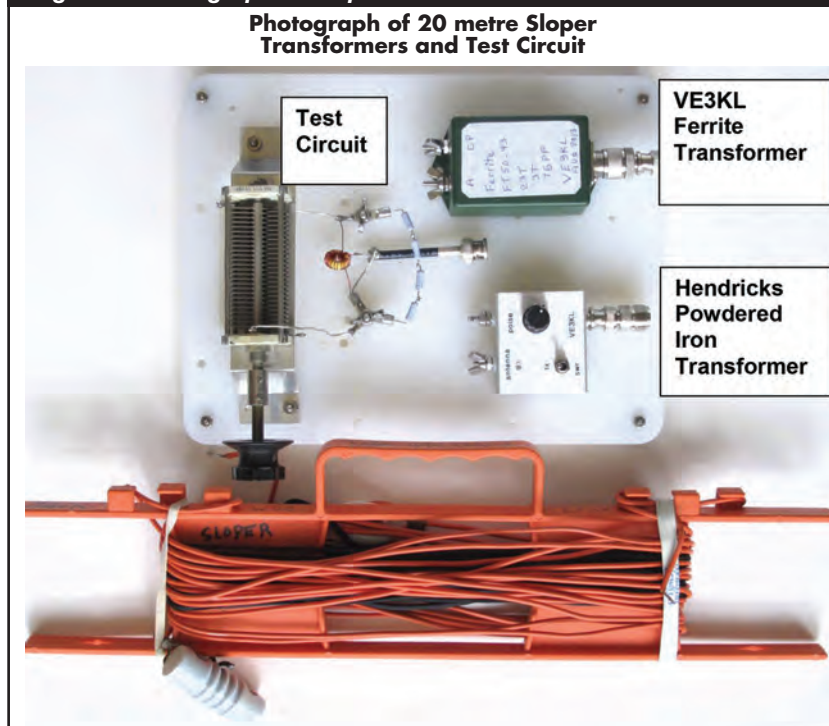


Figure 2: Photograph of Sloper Antenna and Transformers



testing of a 20 metre antenna that can be used either in a sloper, vertical or inverted L configuration. I have also designed and built these antennas for use in the 40 metre band.

Part 1 covers the basics of these antennas while Part 2 goes into more detail about matching circuits and transformers that are a key element of these systems.



A characteristic of these antennas is that they are designed to be resonate at the operating frequency and commonly have an input impedance of 3000 Ohms at resonance. This requires careful attention to the methods of matching them to a 50 Ohm transmitter. Three methods are presented in Part 2 of this series. These methods use either a transformer made from a powdered iron toroid, a ferrite toroid or a larger L-C tuner for QRO operation. Transmission line stubs can also be used for QRO operation.

## WHY USE EFHW ANTENNAS?

There are several benefits and shortcomings associated with these antennas. One benefit is that the feedpoint impedance is extremely high so very little current flows into the earth or counterpoise. This makes matching rather non-critical. In fact, some manufacturers do not use a counterpoise at all and rely on the coaxial feedline for completing the return path from the radiating element to the negative RF terminal of the transmitter. Others, like me, use a short counterpoise to control the situation when using the antenna with different feedline lengths or no feedlines at all.

Another good point is that the position of maximum current (high radiation) is well off the ground and gives a nice benefit to SOTA users who hang antennas off fishing poles in an inverted L configuration. One drawback to these antennas is associated with the extremely high voltages that appear at the end of the antenna. This drawback mainly affects QRO operation above 100 Watts. The main design issues associated with EFHW antennas are:

1) Finding the antenna and counterpoise lengths to produce resonance at the operating frequency. Here the reactance should be zero and the resistive portion of the input impedance should be between 2500 and 4500 Ohms. This is easily done with antenna simulators.

2) Designing a transformer that transforms the input impedance to approximately 50 Ohms. This is the subject of Part 2 of

this series. Here the important parameters are bandwidth, power rating and insertion loss. Very little has been reported on these important items in the literature.

3) Dealing with very high voltages and small currents. For example, a 3000 Ohm resistor that dissipates 25 Watts will have a peak voltage of 387 Volts across its terminals. This voltage will have to be accommodated in transformer components as well. The problem gets worse for 100 Watt levels of course.

## THE DESIGN PROCESS

I have used the following design process for the EFHW antenna for any HF band.

The process is:

1) Simulate the antenna using an antenna simulator and adjust the dimensions for resonance at the frequency of interest. By resonance, I mean that the input impedance is purely resistive with no reactive component. The input resistance will be in the range of 2500 to 4500 Ohms for most bands.

2) Build the antenna and measure its input impedance with a vector impedance meter such as the AIM 4170. Tune the antenna length slightly if needed to force it to resonance at the design frequency. Leave the antenna fixed at this dimension.

Figure 3: 20 Metre Sloper Under Test

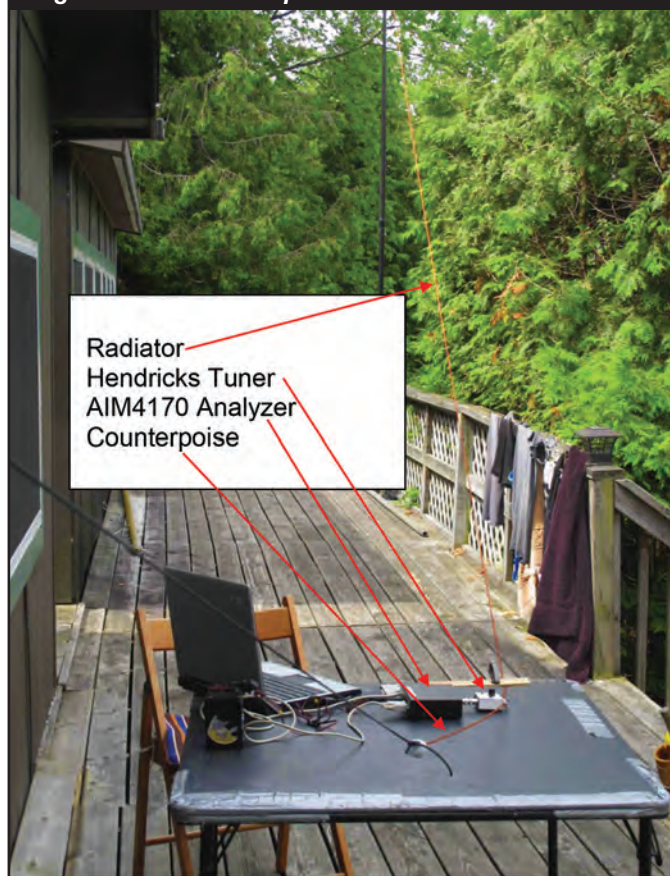
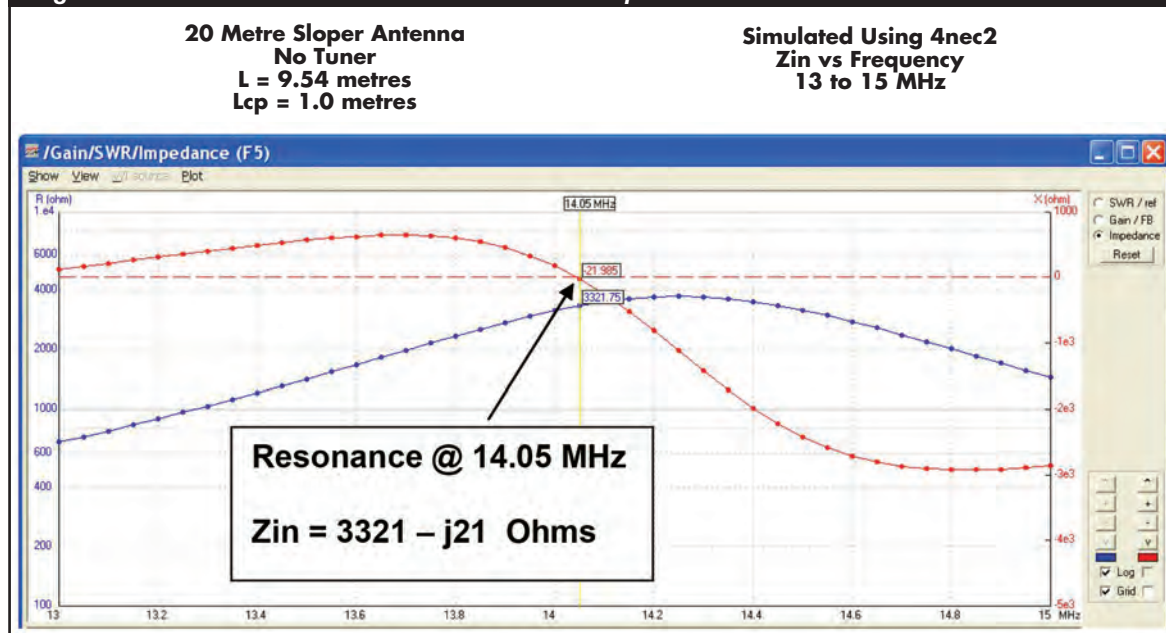


Figure 4: 4nec2 Antenna Simulations – 20 metre Sloper



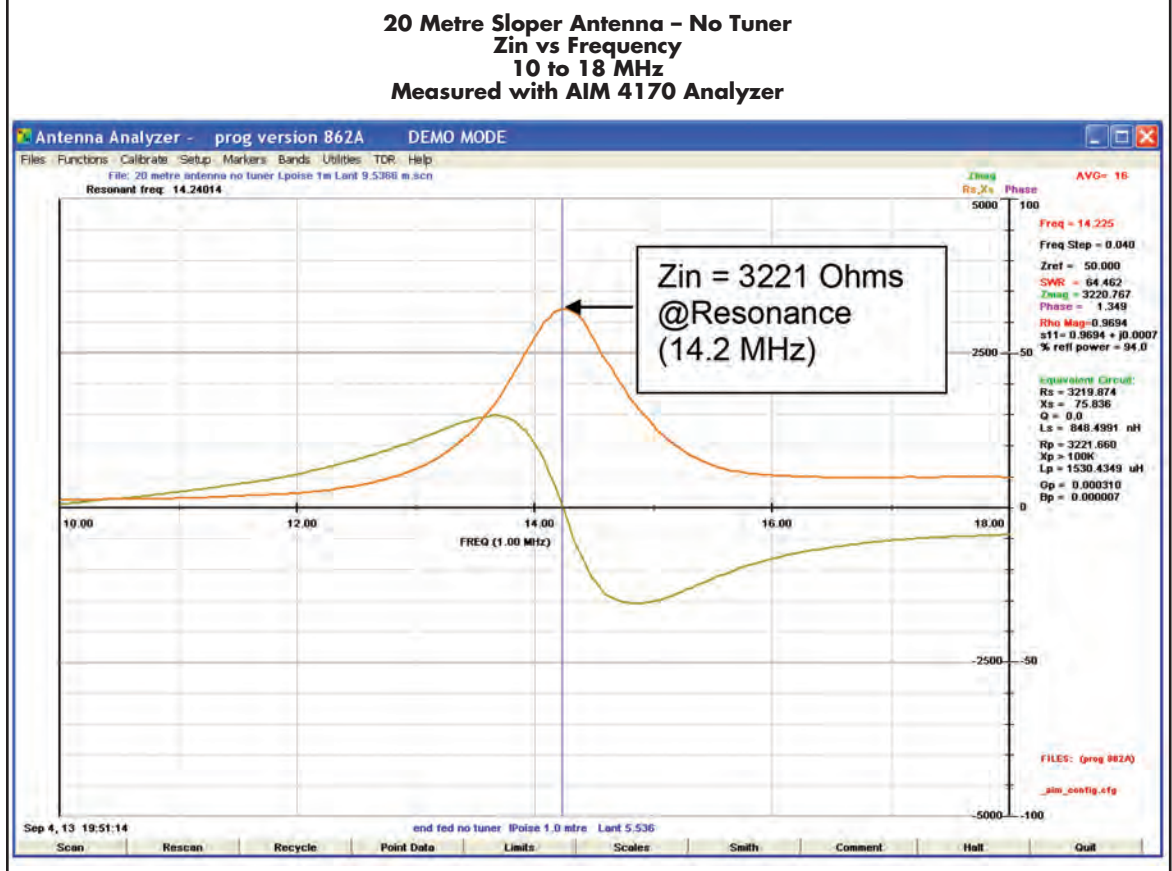
3) Design and build a matching transformer that will convert the high antenna impedance to a 50 Ohm system. These transformers will contain a capacitor that resonates with the transformer magnetizing inductance.

4) Connect the transformer and antenna. Measure the SWR to check the performance. A maximum SWR of 1.5 is usually tolerated.

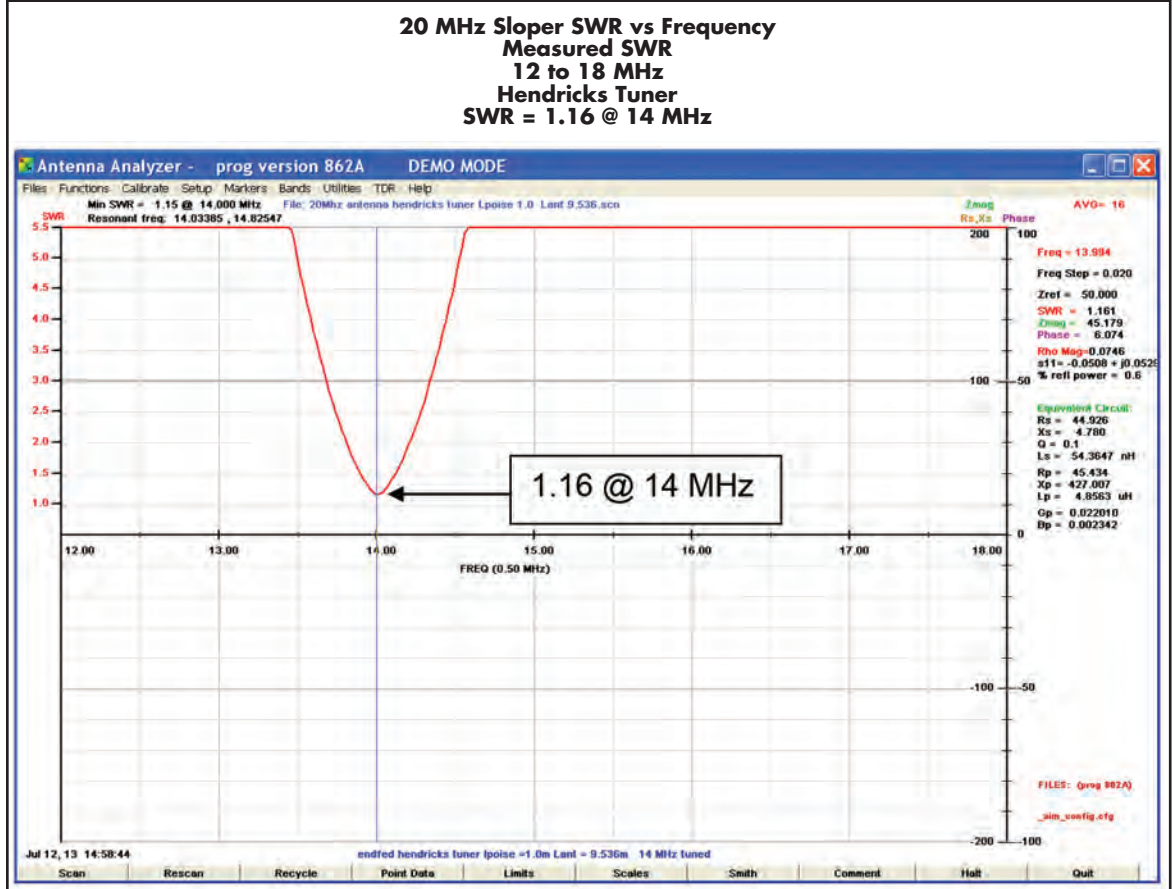
This design process is very straightforward but requires the use of an antenna simulator and a vector impedance meter. There are other approaches that can be used if you only have a very simple SWR meter. The approach used by AA5TB (see TCA hotlink 4) is to adjust the transformer first to resonance in the lab and then tune the antenna length in the field when connected to the transformer. This uses much simpler equipment and works well.

I prefer the other method as it allows me to follow the design process one step at a time and to do the minimum work in the field. Also, if you use a very broad band tuner such as the Hendricks unit – that covers 40 through 15 metres with one large tuning capacitor – the setting of the capacitor becomes quite critical and hard to maintain. This method can be used for fixed tuned transformers as well.

**Figure 5: Sloper Measurements (No Tuner)**



**Figure 6: Sloper Measurements with Hendricks Tuner**





## ANTENNA DESCRIPTION

The antennas discussed in these articles are shown in Figures 1 to 3.

Figure 1 shows the basic layout of sloper and Inverted L configurations. The Inverted L becomes a vertical antenna if the mast is high enough to support the complete structure. This is usually not the case for 40 and 20 metre applications.

Figures 2 and 3 show photographs of a 20 metre sloper antenna, a test circuit for evaluating transformers and two transformer types. The Hendricks transformer (see TCA hotlink 5) shown is a kit that uses powdered iron transformers while the VE3KL transformer uses ferrite cores.

The first antenna that was studied is a 20 metre sloper with a length of 9.54 metres and a 1.0 metre counterpoise (approximately 0.05 wavelengths long).

I have used a counterpoise simply to make the antenna repeatable in a variety of ground and transmission line systems. The antenna is connected to a 3:23 turns ratio conventional flux type transformer fabricated from either powdered iron toroids (Hendricks) or a ferrite toroid (VE3KL) transformer to transform approximately 3000 Ohms to 50 Ohms.

In this case the transformation ratio is equal to 59 (23/3 squared) making the input impedance

equal to 51 Ohms. If your antenna has a higher or lower impedance, the input impedance at the transformer will not be 50 Ohms. But this is not critical. For example, suppose that the antenna impedance is equal to 4500 Ohms at resonance. Then the transformer input impedance will be 76 Ohms which is easy to handle with a simple tuner. In fact, the SWR is only 1.5 which can readily be used by most solid state transmitters.

The second antenna is in the form of an inverted L which also operates in the 20 metre band. In this case, the counterpoise is also approximately 0.05 wavelength long, 1.0 metres. It is fed with the same transformers since the impedance is similar to the sloper antenna. The vertical section is 8 metres long and the top section is 1.96 metres long.

There has been much said about the need for a counterpoise for end fed antennas. Some manufacturers do not use a "physical counterpoise" at all, which means that the antenna return current flows through the outer jacket of the feedline which acts as a counterpoise in that case. I prefer to use a physical counterpoise which keeps the antenna return currents to a known value. There will always be some unwanted currents flowing on the feedlines.

Although this article focuses on the 20 metre sloper, I have also tested the inverted L configuration in the field as well as an inverted L for the 40 metre band. The counterpoise is always set to

approximately 0.05 wavelengths at the desired frequency of operation.

## A DESIGN EXAMPLE: 20 METRE SLOPER

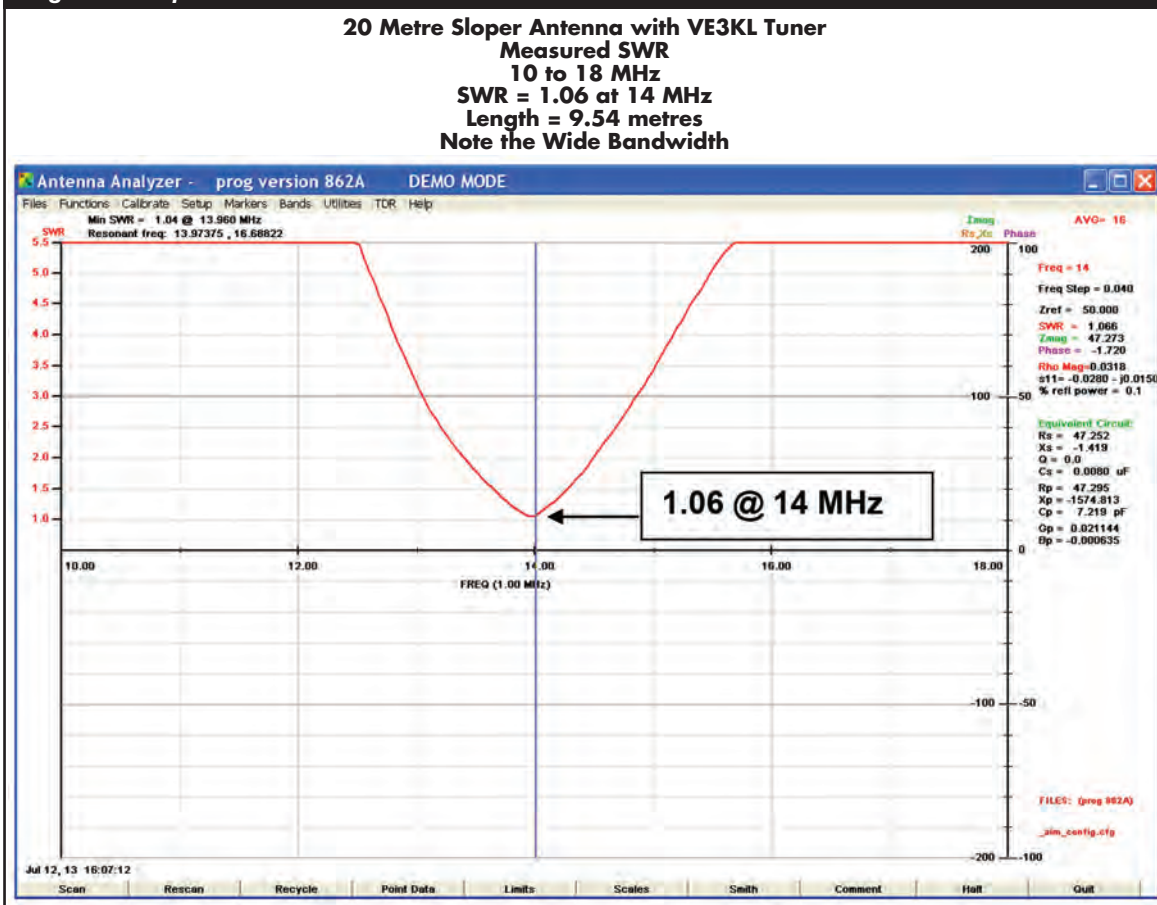
The following are some details of one particular antenna that I have designed and tested. The design process for other configurations is the same. As stated before, the first step is to simulate the antenna.

### Sloper Antenna Simulation Using 4nec2: 20 metre band

The antenna was simulated using 4nec2 to calculate the input impedance and far field patterns for the sloper configuration. Figure 4 shows the input impedance of the 20 metre sloper. Here, L = 9.54 metres where L is the length of the antenna. The counterpoise length is equal to 1.0 metres. The antenna height above ground is assumed to be 6 metres and the height at the transmitting end is 1.0 metres. In this simulation, average ground is used and the copper wire was assumed to be insulated.

As seen in Figure 4, the antenna resonates at 14.05 MHz where the input impedance is  $3321 - j21$  Ohms at 14.05 MHz. This simulation formed the basis for the construction of the 20 metre antenna which was measured using an AIM 4170 vector impedance analyzer. Notice that the reactance is positive (inductive) for frequencies below resonance and negative (capacitive) for frequencies above resonance indicating that the counterpoise is doing its job.

Figure 7: Sloper Measurements with VE3KL Tuner



The antenna behaves as a parallel RLC circuit which is operated close to resonance. If the counterpoise is too short, the antenna never resonates and its input impedance is always capacitive and can be extremely large.

### Experimental Results: 20 metre band

The measured results for the 20 metre band are shown in Figure 5. Here the impedance at resonance is  $3220 + j76$  Ohms at a frequency of 14.2 MHz. The antenna is tuned slightly high but is well within the range of being easily tuneable in the 20 metre band with a simple tuner. For example, the expected SWR at 14.0 MHz at the input to a transformer, with a transformation ratio of 59, is expected to be 1.4 which is deemed to be satisfactory. As a result, I did not tune the antenna.

The measured results for the above antenna using a Hendricks tuner are shown in Figure 6. Here the tuner was adjusted for best SWR at 14 MHz for CW operation. The minimum SWR is 1.16 at 14 MHz, and the bandwidth over a 2.0:1 SWR is 400 kHz width which is quite broad. Hence, if the antenna is tuned at the band centre, it should be quite useable over the complete band.

The same antenna was measured with the fixed VE3KL tuner. The results for this test are shown in Figure 7. Here the antenna/transformer is tuned for 14 MHz where the SWR is nearly ideal at 1.06. The bandwidth is 1.1 MHz which means that the antenna could easily be used over the complete 20 metre band with ease. Even with the antenna and tuner left as is, the SWR is less than 1.5 over the complete 20 metre band.

### SCALING TO OTHER BANDS AND CHANGING DIMENSIONS

Scaling to other bands is quite straightforward for either a sloper or an inverted L configuration. You can start the design process from scratch, by using an antenna simulator, or you can do the whole thing experimentally by setting the total length of the antennas to be 0.5 wavelengths long in free space and then shortening them for best response. Keep the counterpoise close to 0.05 wavelengths long. Here, I have assumed that you already have a properly tuned transformer like the Hendricks SOTA kit. I will have more on that in Part 2 of this series.

### CONCLUSIONS AND DISCUSSION

Part 1 of this series discussed the overall characteristics of End Fed Halfwave antennas and gave a design example of a sloper that has been used in the 20 metre

band. An inverted L antenna was also designed and tested which had very similar impedance values as compared to the sloper antenna. Hence, a special transformer was not needed to use this antenna. The 20 metre sloper antenna acts like a simple horizontal dipole with respect to its radiation pattern, while the inverted L at 20 metres acts more like a vertical antenna with a low angle of radiation.

I found that these antennas are quite easy to work with and to match in spite of their very high impedance levels. This is because a very large variation in the resonant impedance translates to a small variation after transformation through the matching transformer.

Part 2 of this series goes on to discuss the design and construction of matching transformers for these antennas. I will use both powdered iron cores – with their very low magnetizing inductance (narrow band implications) – and ferrite cores, with a very high magnetizing inductance (wide band implications) as well as discussing high power L-C transformers.

### FURTHER STUDY USING TCA HOTLINKS

Further information is provided with TCA hotlinks which are easily accessed via the RAC website. For this information, please visit <http://www.rac.ca/tca>. Hotlinks make it unnecessary to type URL addresses into your computer and provide you with calculators and other support that demonstrates the ideas presented in the articles. The following hotlinks for this article are available on the RAC site.

TCA hotlink 1 – Zepp Antenna Patent:  
<http://www.aktuellum.com/circuits/antenna-patent/>

TCA hotlink 2 – Par Electronics:  
<http://www.parelectronics.com/end-fedz.php>

TCA hotlink 3 – High End Fed Antennas:  
<http://www.hyendfedantenna.nl/joomla/tech-info.html>

TCA hotlink 4: AA5TB End Fed Antennas:  
<http://www.aa5tb.com/efha.html>

TCA hotlink 5 – Hendricks SOTA Tuner Kit:  
<http://www.qrpkits.com/sota.html>

### ACKNOWLEDGEMENT

The author wishes to thank Bryan, VE3ZRK, for his assistance with the fabrication of the antennas. His contributions are always unique and extremely useful.

– Until later, David, VE3KL



## FEEDBACK

### "The PWA Beacon Stations"

Many thanks to Reg Beck, VE7IG (VE8RG) for the interesting article on the PWA aircraft beacon and weather stations in the Canadian arctic and sub-arctic (September-October 2013 TCA, p 41).

In the article Reg notes that he "could write a book about this part of Canadian history". I hope he does.

*John Gilbert, VE3CXL (ex VE8OW)  
Ottawa, Ontario*

### An Idea

I was scanning the pages of my E-QST today and happened upon the following, under the heading of "November 1988" on page 101. A fellow out west named Wendell Morrill, NV7Y, wrote an article about how he went through his old QSL cards, found current addresses for many of the hams, wrote them, and received many appreciative replies.

I got to thinking. In this day and age, too little is being done via the National Traffic System, so why not give something like this a try? I am sure most of us have a stack of QSL cards from the past when exchanging actual paper cards was the norm. For that matter E-QSLs are just as acceptable for the project. Spend some time, go through the stack, check QRZ to see if any of the hams are still licensed or alive, and send them a short greeting via radiogram.

It does not matter whether you utilize the NTS, NTS-D or WL2K. In addition, we now have access to Europe via Peter, DL4FN. Messages for European hams should be sent via NTS-D where they will be forwarded by any one of several digital stations. All will keep the system active. I myself generate between 500 and 800 messages a month for a variety of reasons, whether they be birthday greetings, welcome messages, holiday greetings, anniversary wishes or requests to try Morse Code. I do this because I have the time to do it, and to keep the system well oiled. Some will say that NTS is an albatross. Well maybe that is so, but it is so largely because so many hams have forsaken it for the speed of IM, texting and the like.

Why not take a deep breath and give this idea a try?

*Glenn Killam, VE3GNA  
Roblin, Ontario*



# Operating from the Field...

Bill Unger, VE3XT

I particularly enjoyed the July-August 2013 issue of TCA as it focused on operating away from the shack. I also enjoy operating away from the shack and want to describe my "to the field" setup.

My rig of choice is an Elecraft KX1 as it offers excellent power output to battery life ratio and has a built-in tuner and is the size of a pocketbook. For an antenna I use an end fed 8.5 metre length of Wireman 534 wire. I also use two wires that are 4.9 metres long as a set of counterpoises. This antenna loads up well on 40, 30 and 20 metres with the internal tuner. Depending on my destination I will use either eight 2500 mAh Ni MH AA cells or Alkaline AAs.

I had originally planned to use one of the ubiquitous Pelican cases, but after looking at them they seemed bulky outside compared to the interior space. While wandering through a Mountain Equipment Store, I discovered a plastic case made by GSI out of Spokane, Washington. It measures 9 cm H by 20 cm W and 16.5 cm D. With the case loaded with all the gear it weighs in at 1.1 kilograms and fits nicely in my checked luggage or a small pack for a day trip.

As you can see from the photos in the right column it accommodates my KX1 and everything I need to operate remotely. I did have to modify the case as it was so airtight it was a battle to open it. I drilled a small hole in the bottom and this solved the problem. If you need a watertight case a small piece of tape over the hole will solve the problem. The packing is made from a flat pool noodle.

A couple unique things I like about this arrangement is that the log is mounted on the back of the KX1 and is under a piece of a clear Duo-Tang cover to protect it.

The throwing nut is a 2 cm nut with 10 lb fishing line. The wire and string extension has a higher tensile strength so that if it gets caught in a tree, the fishing wire will be the weak link and I can retrieve my antenna and hopefully the nut as well. The two yellow objects look amazingly like a pair of corn cob holders, but you would be wrong. Local Amateur Mike Skillen, VE3EDX, showed me how they can be used as pegs to keep the counterpoises fully extended. Once while operating from Portugal I used wine bottles for the same purpose. Sometimes while operating away from the shack a bit of a MacGyver mentality helps a lot.

Finally, the last question you may have is OK, so does it work? The answer is a resounding yes. This is my goto set up for field operations for such events as FYBO, FOBB, Field Day, Skeeter Hunt and some just plain old let's get out and operate trips. I have been fortunate enough to operate from both Portugal and Italy many times over the years. With this setup I have made dozens of QSOs all over Europe. These trips are vacations and family visits so radio time is typically limited to an hour a day. Also bear in mind that if you want to operate from Europe you need to obtain a CEPT certificate available from RAC Headquarters. This is another RAC service to Canadian Amateurs.

My last portable operation was operating as VE3XT/VE6 last August. I was hoping to operate in the Skeeter Hunt but the date was in the middle of our trip to Alberta to visit kids and grandkids. That day I took one-hour to throw up the antenna and operate – and I came in first place in Alberta! The fact that no other VE6s were in the contest probably sealed the deal. But all you VE6s be forewarned,



I may be back to Alberta next summer to defend my title and hope to double my QSOs to four. From home I am active most days with a K1 to a homebrew vertical but I prefer to operate from the field. Keep an ear out for VE3XT/ somewhere.

Bill was licensed in 1970 as VE3EFC and obtained the call VE3XT in 1995. After graduating from Confederation College he worked for the Department of Communications, CBC and TVOntario. He taught Electronics at Confederation College for 10 years and retired in 2010. He enjoys melting solder and tinkering with circuits. His operating time is usually QRP CW with either an Elecraft K1 or KX1, both in and out of the shack. With the arrival of a KX3, he hopes to try some of the other digital modes and since it has a Mic I/P possibly QRP SSB. He has been the RAC Director for Ontario North/East since 2008.



# COAXIAL LIGHTNING ARRESTORS

John White, VA7JW

## INTRODUCTION

Coaxial lightning arrestors, also referred to as surge suppressors, are devices installed in series with a coaxial cable feedline to protect equipment from damage and to prevent injury caused by a lightning strike. There are many such arrestors available as evidenced by online searches. Devices range significantly in the degree of protection, features and cost. The question is what device should I use?

For this article I studied two types of inexpensive and commonly available devices: a Spark Gap device and a Gas Tube device. The objective: to understand how these generic devices work and to determine if they are effective and if they are applicable to the Amateur Radio Service.

## SPARK GAP LIGHTNING ARRESTOR

### Overview

This device is commonly recognized by its distinct appearance as shown in Figure 1. It is an in-line, spark gap lightning arrestor and is typically, but not always, characterized by its part number, which contains the sequence "A28".



Figure 1: Typical A28 In-Line Coaxial Lightning Arrestor

The pricing of this A28 style of arrestor was found to range from \$1 to \$24. Searching the Internet will reveal a multitude of suppliers and prices for this device. The devices used in this study were purchased at \$4.50 each from an Amateur Radio dealer.

**Note:** The suppressors discussed in this article are not rated to survive a direct lightning hit to a tower or wire antenna, nor to save the cables or connected equipment nor to ensure your personal safety. However, if the grounding methods used for the station have been installed with lightning in mind, the suppressors may minimize subsequent damage to your house and equipment. They may save connected equipment from near field strikes that still induce destructive currents and voltages. Unfortunately, there are no guarantees with lightning.

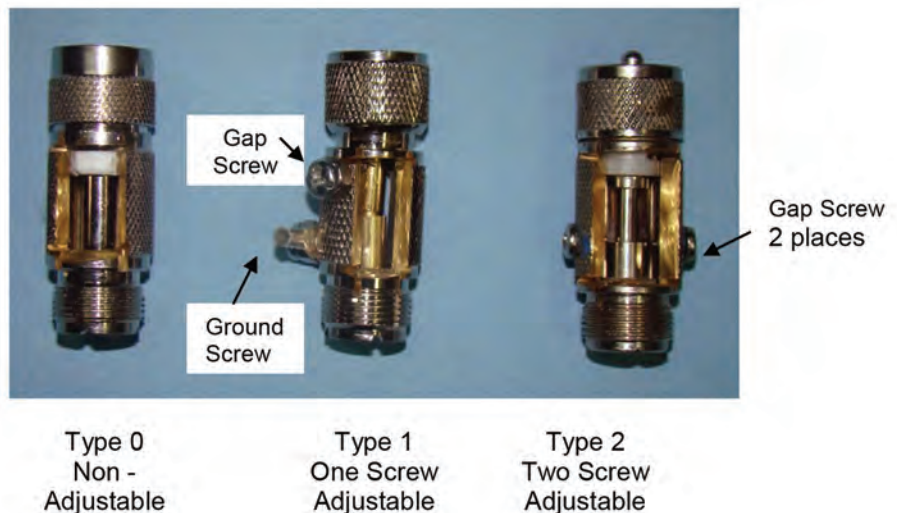


Figure 2: Three Variants of the A28 Lightning Arrestor

Vendors were contacted for technical information regards the performance of these devices. Those that replied did not have any information. Many did not reply at all. This raises questions as to what level of protection is offered by the A28.

### Arrestor Construction

This arrestor is suitable for inserting into a coaxial cable transmission line. It does not lend itself for use on balanced feedlines or rotor or power wiring. It consists of a cylindrical metal body casing which contains a spark chamber.

There is a PL-259 male connector on one end and an SO-239 female connector on the other end. A centre conductor runs through the casing thus somewhat preserving coaxial cable construction and impedance.

A grounding screw with solder lug is provided so that a grounding wire can be attached and taken directly to the earth ground system.

The arrestor provides protection by introducing a small air gap between the centre conductor and the grounded casing. When lightning strikes, a high voltage will be induced on the coaxial

transmission line. The enclosed air gap will flash over, creating an arc which will form a low voltage conductive path between the centre conductor and the (grounded) casing thus diverting damaging currents to earth; hence the reference to "spark gap" arrestor. The gap distance will determine the flashover voltage required to initiate an arc across the gap.

There are variations amongst the A28 devices that impose significant performance differences, even though they appear outwardly similar. Three types have been characterized.

**Type 0** has no screw gap adjustment, **Type 1** has one screw gap adjustment, and **Type 2** has two screw gap adjustments. The Type 2 appears to be obsolete as no supplier for this device has been found. However, performance results for the Type 2 are included.

Figure 2 shows the three types that have been "opened up". There are significant differences in this construction. All have a grounding lug screw, but are not visible on Type 0 and Type 2 in this photo. The grounding lug screw is *not* used as a spark gap screw.

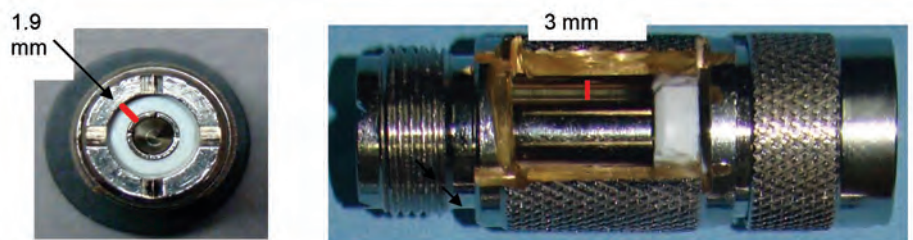


Figure 3: Type 0 with Exposed Spark Chamber - Non-Adjustable Gap



### Type 0: No Adjustable Gap

Figure 3 on the previous page shows the exposed spark chamber and an end view of the female connector.

The separation between the surface of centre conductor and inside surface of the spark chamber is 3 mm for a theoretical breakdown voltage of  $3\text{ kV/mm} \times 3\text{ mm} = 9\text{ kV}$ .

Examining the connectors for the length of their surface insulation path, the red line (see the eTCA for colour) on the female connector is minimal at 1.9 mm. This provides for a theoretical breakdown voltage of  $3\text{ kV/mm} \times 1.9\text{ mm} = 5.7\text{ kV}$ . Note that this is less than the 3 mm in the chamber.

### Type 1: Single Adjustable Spark Gap Screw

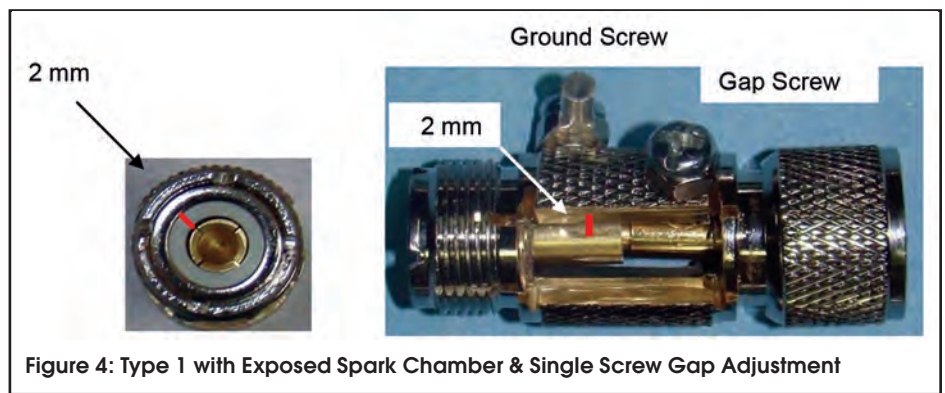
Figure 4 shows the exposed spark chamber and an end view of the female connector. One can see that the centre conductor components are not well aligned or centred, being bent off axis. This raises some doubt as to manufacturing tolerances and the resultant gap distance within the spark chamber.

The red line on the female connector, between the centre conductor and the outer shell of the connector, has a 2 mm surface path length which is less than the male end but is the same as the spark chamber. Since the chamber gap and female connector arc path dimensions are equal, one, either, or both will flash over at the same time for a theoretical breakdown voltage of  $3\text{ kV/mm} \times 2\text{ mm} = 6\text{ kV}$ .

There is, however, a gap screw. The screw comes equipped with a nut. When this nut is tight against the screw head – and the combination is tightened down on the casing – the gap between the screw and the centre conductor is governing at ~1.25 mm for a theoretical breakdown voltage of  $3\text{ kV/mm} \times 1.25\text{ mm} = 3.75\text{ kV}$ . This ensures that the gap breaks down before the connector.

### Type 2: Two Adjustable Spark Gap Screws

Figure 5 shows the exposed spark chamber and an end view of the male



connector. This design does have some interesting features which the newer ones do not exhibit.

The edge of the sharp step down on the centre conductor at the female end concentrates the electric field at that edge ensuring that flashover will occur at this point. The two gap screws are centred on that stepped edge further encouraging the flashover. In addition, the screws have conical points for increasing the electric field and so flashover is guaranteed to occur at this precise location. The Type 0 and Type 1 have no equivalent feature.

Inspecting the connectors for the length of the surface insulation path, the red line on the male connector between the centre conductor and the outer shell is 2.25 mm whereas the female end has a greater surface path length of 2.8 mm.

The gap between the large diameter cylinder of the centre conductor and the casing is 2.15 mm for a theoretical breakdown voltage of  $3\text{ kV/mm} \times 2.15\text{ mm} = 6.5\text{ kV}$ , but with a gap setting of about 1.25 mm for a theoretical breakdown voltage of  $3\text{ kV/mm} \times 1.25\text{ mm} = 3.75\text{ kV}$ .

### Testing

Testing of levels comparable to lightning currents at home is not possible, but in terms of voltage it is not so difficult to determine flashover voltages and rise and fall times. A test fixture was built to do just that and the results are shown on Figure 6 on the next page.

A pulsed high voltage spark generator was built using an old style, single,

automotive spark coil to generate the high voltage (HV). The HV was applied to the arrestor. A 10 megohm R1 / 10k ohm R2, 1000:1 voltage divider was built to reduce the HV to a safe level for connecting to a Tektronix 465 scope. 1 kV would read 1 volt. As such, the applied HV, the clamped voltage, and the rise times could be measured as well as revealing the physical flashover by visual observation.

The HV can be varied from 0 to many kV by varying the 115 AC voltage using a Variac to control the primary voltage of the AC-DC power supply that supplies 0 to 12 volts to the coil primary. The primary of the coil was pulsed with a relay circuit at about 3 times per second with an ON duration of about 50 milliseconds.

**Note:** A Variac is a continuously adjustable auto-transformer that produces an AC output from 0 V to 140% of the input AC voltage by simply turning a large knob that moves a wiper across the transformer turns.

### Flashover Observations

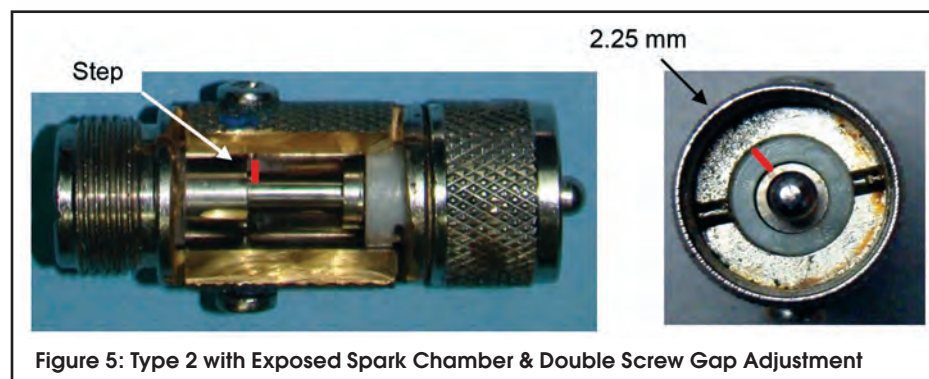
The Type 0 flashed over at the female connector, that being the shortest distance within the device between the centre conductor and the grounded body. No flashover was noted in the spark chamber.

The Type 1 flashed over at the spark gap with a 1 mm setting. However, the 2mm gap on the female connector also flashed over. The sharp edges on the female centre receptacle concentrate the E field at these edges which flashed over to the body as well.

The Type 2 reliably flashed over to the gaps which were both set to ~ 1 mm. No connector flashover was observed with the gap screws in place.

### Waveforms

The waveforms are the same for Types 0, 1 and 2. Three waveforms were recorded: a) voltage before flashover (see Figure 7 on the next page); b) voltage at flashover as compared to (a) (see Figure 8); and c) an expanded view of the leading edge of the flashover voltage (see Figure 9) so as to get a better measurement of the rise time and peak voltage at flashover.



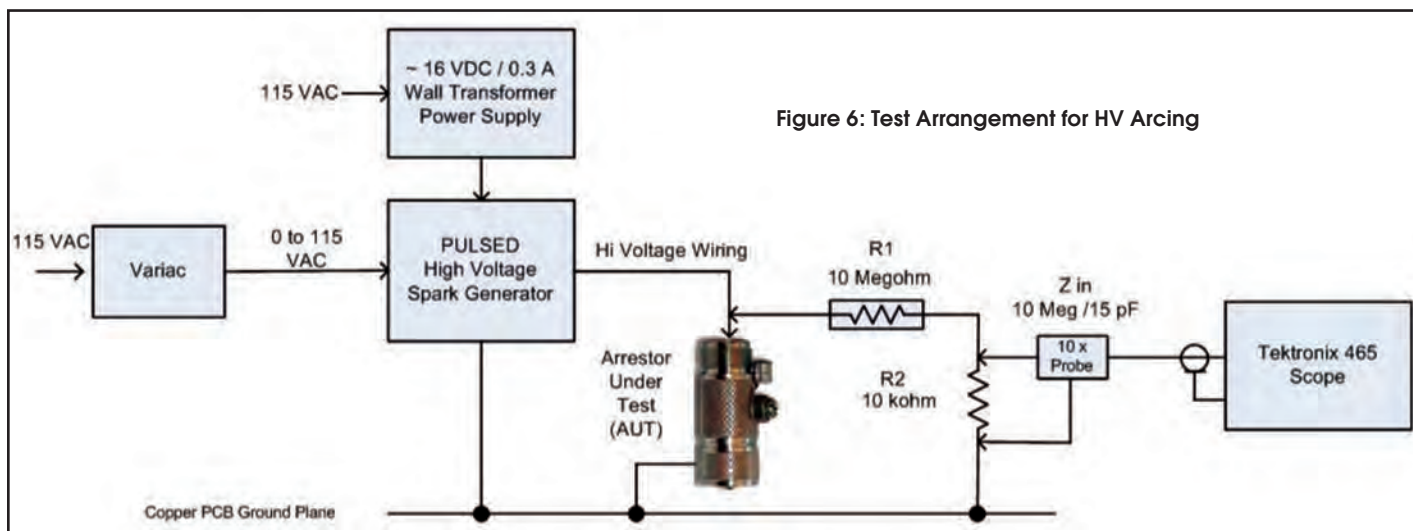


Figure 6: Test Arrangement for HV Arcing

**Note:** The various waveforms shown below and on the next page all show an oscillation called ringing. This is due to stored magnetic field energy in the spark coil being dissipated through the primary circuits of the spark generator. This is particularly evident prior to the flashover level being reached since the secondary has not yet conducted as shown in Figures 7 and 9. The ringing is also evident after the coil has dissipated most of its energy in the spark gap, but when the spark is quenched, residual energy left in the coil still “rings”.

#### a) Voltage Across Device before Flashover

The arc has not been struck (see Figure 7 at right). Peak voltage is ~ 6 kV. An explanation of the oscillatory “ringing” after the spark gap has flashed over is provided above.

#### b) Voltage at Flashover

The applied HV is increased to just beyond 6 kV where visible flashover is initiated (see Figure 8). The initiating 6 kV+ spike cannot be seen as the arc is struck very quickly. The arc voltage is evident on close inspection to be ~ 200V. The arc continues to conduct for ~ 160 usec when it is quenched; that is, the energy supplied by the spark coil is dissipated. The quenching is followed by residual ringing.

#### c) Expanded View of Flashover

The rise time of the HV is extremely fast, rising to the point of flashover which occurs at about 6 kV (see Figure 9 on the next page). The arc initiates instantly but it takes about 1 usec to invoke ionization of the air and induce the electron avalanche leading to the establishment of the arc clamping voltage of ~ 600 Volts.

### GAS TUBE LIGHTNING ARRESTOR

Tests were performed on a \$15, in-line, surge arresting gas tube product. For additional information, email the author at va7jw@shaw.ca.

As can be seen in Figure 10 on the next page, the body accommodates a gas tube, a grounding screw and RF connectors on each end. The top screw accesses the gas tube which can be easily replaced.

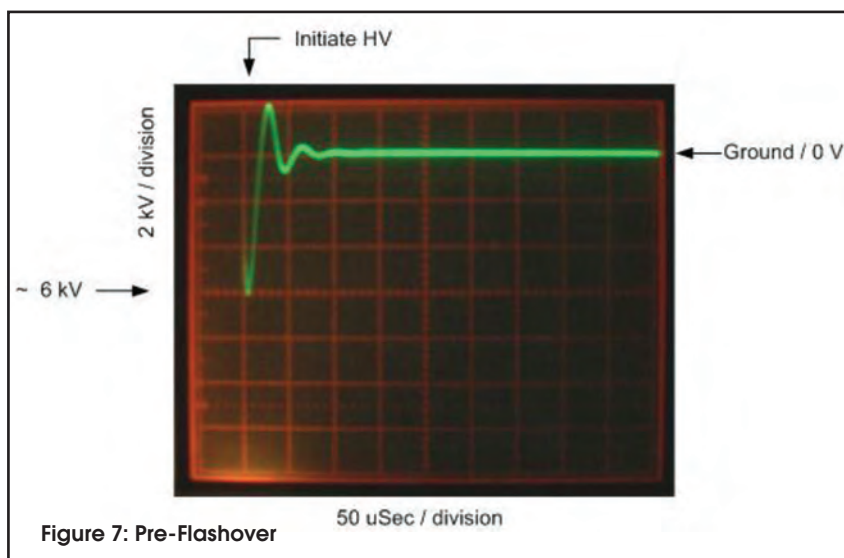


Figure 7: Pre-Flashover

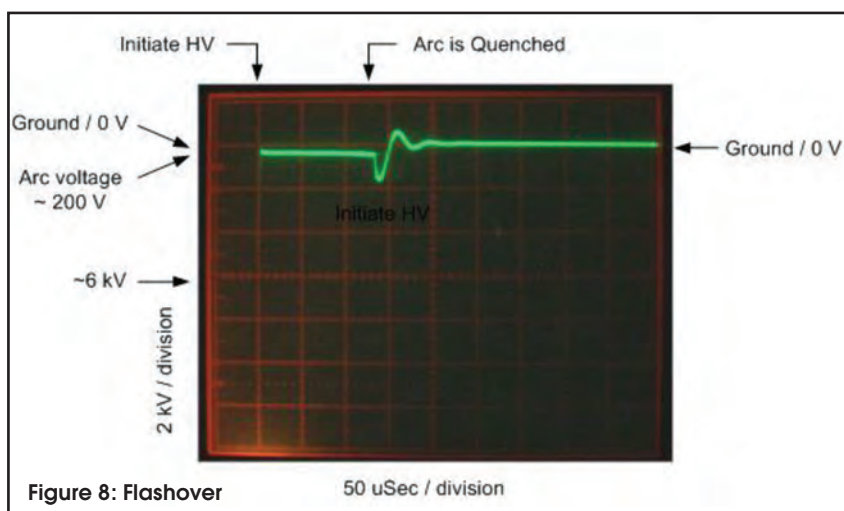


Figure 8: Flashover

Arrestors of this type often have options with regards to connectors such as PL, N, BNC etc, male or female, and breakdown voltages. They may also offer extended length female connectors suitable for bulkhead mounting on ground plates. A grounding screw is normally supplied with a ground lug to allow a separate ground wire to be utilized.

These arrestors utilize a gas tube spark gap suppression technique that does not rely on uncontrolled air humidity, air pressure, or variation in spark gap length for breakdown as employed with the A28 spark gap arrestors.



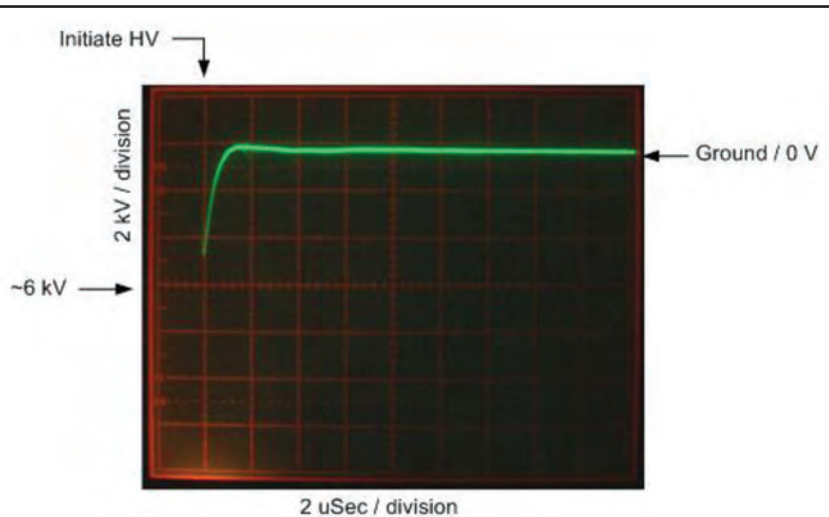


Figure 9: Expanded View of Flashover

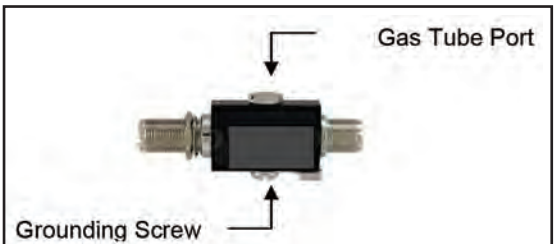


Figure 10: Gas Tube Lightning Suppressor



Figure 11:  
Gas Tube "Pellet"

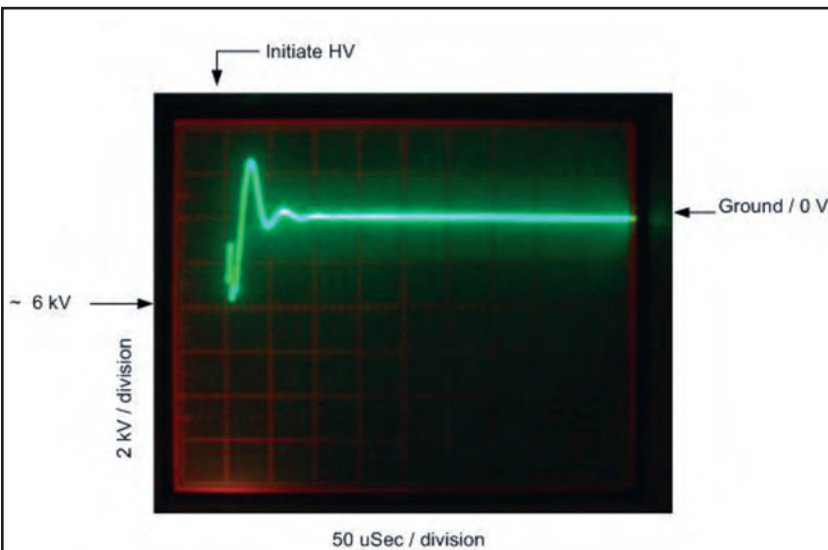


Figure 12: Applied Waveform

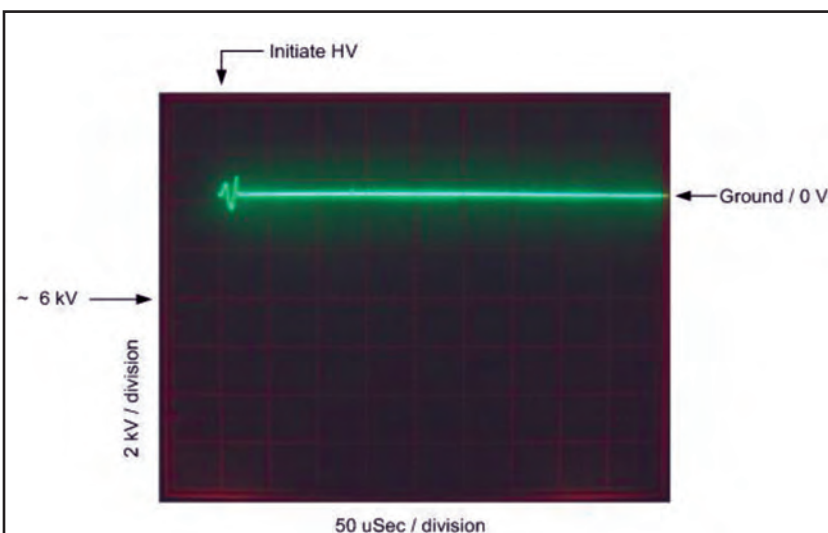


Figure 13: Gas Tube Fired

Gas tubes are sealed devices with electrodes of fixed dimension and chambers filled with a controlled gas – all of which reliably determine the breakdown voltage.

Tubes are rated to breakdown at various and specific voltages: as low as 90 V or as high as 1000 V. The tubes appear open circuit until they fire due to the presence of a voltage exceeding their breakdown rating. While these tubes can fail under a mighty strike, they are easily replaced. Typical cost, \$5.

#### Waveforms

The gas tube arrester was tested under the same conditions as the spark gap arrestors using the same equipment and test fixtures.

#### a) Voltage Across Device without a Gas Tube

The female connector was observed to flashover at just over 4 kV. The protector body does not have the gas tube installed and, while this is the first flashover point, it is of little importance as the gas tube will suppress the HV at a much lower level when installed.

#### b) Voltage across Arrester with a 600 V Gas Tube Installed

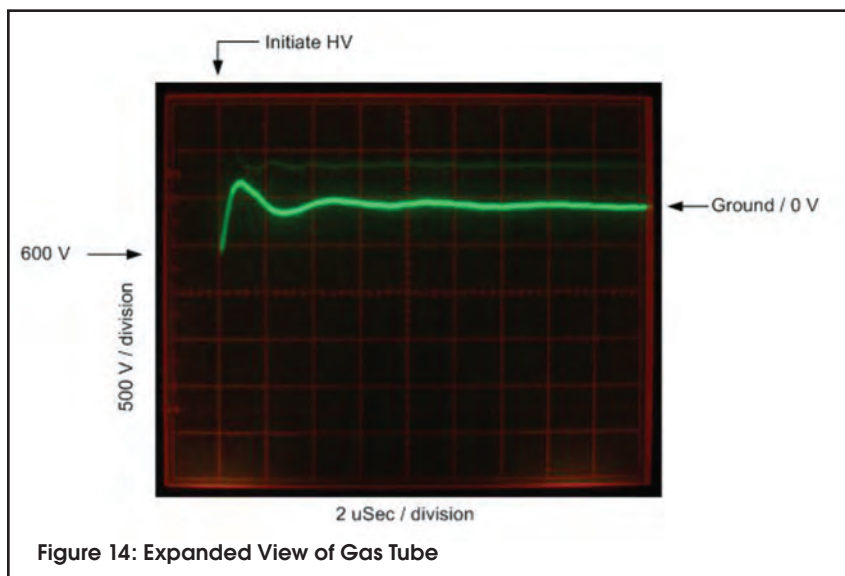
The gas tube has fired and has suppressed the energy. There does not appear to be an initial overshoot. The arc voltage is clamped to an immeasurable level (specified at 10V) at this resolution.

#### c) Expanded View of the Gas Tube Firing

The gas tube appears to conduct as soon as the voltage rises to the ~ 600 Volt level.

#### SWR and Insertion Loss

The A28s have no specification in this regard and so VSWR measurements were done with an AIM 4170 Vector Impedance Meter. The Gas Tube device did have specifications but it was measured as well. The results are provided in Tables 1 and 2 on the next page.



## SUMMARY

The A28 Type 0 has no gap and it is the connector that flashes over. Type 1 will flash over at the spark gap and probably at the connector as well. Type 2, having the best design, is seemingly unavailable. Since Type 0 has no adjustment and Type 2 is unavailable, Type 1 is the only option to consider.

The Gas Tube device performed well as specified.

The opening question was "What device should I use?" and it might well be expanded to ask "whether to use it".

I decided to use both the Type 1 and the Gas Tube devices since both appeared to act extremely fast, to clamp to reasonably low voltages and, if well grounded, they would be likely to divert destructive currents.

In addition, the Gas Tube device performance was very impressive and the device was very well constructed.

I have five Type 1 suppressors that are mounted at two different tower bases to serve as primary arrestors for HF and VHF coaxes using a 1-1/2 turn gap. Four Gas Tube devices are also used at the tower bases for the UHF coaxes. Nine more gas tube devices are used as secondary arrestors to protect all coaxes at the cable service entrance on my house next to my hamshack.

All of these devices have been subjected to summer and winter conditions with temperature ranges from about -10 to +30 degrees Celsius, under sun, lots of rain, and snow conditions. They have been in service for over a year, without incident, at the time of this writing.

### Gap Adjustment Procedure for the Type 1 and Type 2

The spark gap cannot be set by direct measurement as the gap is inside the spark chamber. However, the gap can be set indirectly since the distance-per-turn of the screw is known. This works when starting from a known position; that is, against the centre conductor. By backing off the screw, the gap can be set to a known distance as shown in Table 3.

- 1) Discard the supplied gap screw. Save the nut or supply a new nut.
- 2) Use a 4 x 10 mm metric machine screw to replace the supplied screw. I recommend stainless steel as non-rusting.
- 3) File or grind with a Dremel tool, a 4-sided point. A 45 degree angle is good.
- 4) Thread the nut on the screw up to the head, just snug.
- 5) Thread this assembly into the vacated screw gap hole.
- 6) Connect an ohmmeter between the centre conductor and the casing.
- 7) Thread the screw in until it shorts to the internal centre conductor.
- 8) The "thread rate" on the 10 mm screw is about 0.7 mm per turn (1 revolution).
- 9) Back off the screw according to the Turns / Gap Table (see Table 3).
- 10) Lock the screw down by tightening the nut against the case. Be careful not to disturb the setting.

11) It is a good idea to put some blue Loctite on the joint to seal and hold it in place (<http://www.loctite.com>).

**Note:** *this procedure is not exact as gaps are small and there are production tolerance issues with the rigidity and centring of the centre conductor that could affect the actual gap distance. Check with an ohmmeter to make sure there are no shorts when done. Watch for sudden VSWR changes at higher power levels which would indicate gap arcing.*

Use of the Loctite or a similar product is recommended to secure the spark gap screw from loosening and readjusting itself.

**Table 1: SWR Performance**

Type	VSWR at 1 MHz	VSWR at 30 MHz	VSWR at 150 MHz
0	1:1	1.03:1	1.18:1
1	1:1	1.05:1	1.29:1
2	1:1	1:03:1	1.17:1
Gas Tube	1:1	1.01:1	1.05:1

**Table 2: Insertion Loss**

Type	I.L. at 30 MHz	I.L. at 150 MHz
0	< 0.05 dB	~ 0.05 dB
1	< 0.05 dB	~ 0.1 dB
2	< 0.05 dB	~ 0.05 dB
Gas Tube	< 0.05 dB	< 0.05 dB

**Table 3: Turns / Gap Table**

Type	Device	Turns	~ Gap
1	Single Adjustable Gap	1 to 1-1/2	0.7 mm to 1.5 mm / ~ 0.028" to 0.06"
2	Double Adjustable Gap	1 to 2	0.5 mm to 1 mm / ~ 0.02" to 0.04"



# YOU'VE COME A LONG WAY, BABY! A BRIEF HISTORY OF THE TORONTO FM COMMUNICATIONS SOCIETY

## Nigel Johnson, VE3ID

There is a Monty Python sketch called "Four Yorkshiremen" where the characters are reminiscing over a nice bit of plonk, and saying how hard they used to have it. Well, things were not all that rosy in the early days of our society, either. We did not have to live in a cardboard box in t'middle of t'road, but pretty close.

When Van, VE3ARV and Keith, VE3DHL (SK), first put the VE3RPT on the air in 1965, the only way you could work it was to convert an old taxi cab radio after ordering a pair of crystals.

When I came on the scene in 1969, you could go to the Philips Electronics office on Vanderhoof Avenue in East York, Ontario, sit down beside an engineer's desk, and he would then write up a requisition, take the money from you and you would wait 12 weeks for the phone call to say that they had arrived. The cost for all that talent was \$6 per crystal. The Philips office has long gone, replaced by a shopping mall at the back of the Mercedes offices. Other Amateurs had discovered Snelgrove and Lesmith would also do custom crystals for hams. In those days, the 2 metre band used 60 kHz channels and the radios were set for 15 kHz deviation.

Getting the radio to tune was another matter. Most radios were designed to operate well above the 150 MHz range, and so removal of coils and the addition of padding capacitors was the norm. At one point, a friend of mine obtained some surplus GE Progress line radios and we modified them for hams in his basement.

VE3RPT outputted on 147.06 MHz (channel "M"), and inputted on 146.46 (channel "D", which is now a simplex frequency) and when the repeater first came on the air it identified on 146.94 (channel "A", then the calling channel) so that people would know that someone was on the repeater and they should go over there to talk to them.

It was assumed that there would be only one repeater in any one town, and that it would go to the calling channel to tell people that it had come alive. As long as you did not let the tail drop, it would keep its output on 149.94 so people who did not have the right crystals could listen to it – a nice feature for emergency communications. If you let the tail drop, you had to wait for it to time out or dial the reset code to get it back again.

Did I say dial? Yes, those who were entrusted with the secret codes had mounted a rotary dial in their cars. The Department of Transport (then our regulatory body) was very specific in saying that the licensee had to be able to control the repeater and shut it off if they phoned him, since they were still not sure it was a good idea to let Amateurs have repeaters. When you turned the dial clockwise, it keyed the transmitter, turned on a 2805 Hz tone, (called "Secode") and when you let go it pulsed the tone the number of times corresponding to the number you had turned the dial to. In the repeater, there was a rotary ("Strowger") switch that clicked the same number of times and triggered some logic to do the functions. The logic family was DTL (Diode-Transistor Logic, the forerunner of TTL). We still have spare chips in the shack for this logic! We even had a relay to turn on a floodlight on the tower for night visits.

When I worked for Van's engineering company in 1975, we sat in his office dreaming of having a computer do these functions. At that time, the computer that we dreamed of was a PDP11, a whole rack of equipment similar to the ones that we had just installed in the two main sorting offices in Toronto to move the mail. The only problem was the price tag, a minimum of \$30,000.

We got a break when Motorola donated a 6800 development system to us. Well, when I say system, it was a kit of parts and 2,000 punch cards! The kit of parts had to be soldered together to make a working micro-controller. No problem there. However, in order to get a cross-assembler to create the program for the 6800, we had to load all the punch cards into a computer that had a Fortran compiler. The only problem was that the computer did not have a card reader. After scratching our heads, we discovered that the only way to get the Fortran source code for the cross-assembler into the computer that had the compiler was to read the cards into one computer, punch paper tape from it, and read the paper tape into the other computer. 2,000 cards with up to 80 characters on each means that a paper tape with 160,000 rows of eight holes had to be fed from one computer to the other. Yours truly was the one left standing in the middle trying to make sure the tape did not snag!

The development of the controller itself will not be repeated here. It was the subject of a feature article in the April 1977

edition of *Electronics Today International*, Canadian Edition, which is published on our website at [www.tfmcs.com](http://www.tfmcs.com).

The first prototype of the controller was shown off at the 1977 ARRL convention in Toronto, but the final version of the controller didn't go to work in RPT until 1981 – four years later. This controller was still there as of December 2013. Various versions of the controller went into operation at VE3TFM/VE3MPU, which was the club's second 2 metre repeater, on 147.27, located at 95 St. Clair Avenue West. This location was also used for the downtown terminal of the remote auto patch system.

Unfortunately a rain gutter somewhere nearby was rectifying signals, and the 680 kHz signal from CFRF was heterodyning with the Metro Police Mitre frequency of 148.55 to produce an input right on our input frequency – making the site completely unuseable as the rain gutter got rustier! OK you say, that's easy, you just DF it using a Yagi. If you can jump from the top of one building to another in downtown Toronto, we have a job for you! We eventually gave up this site and Terry, VE3CAB, used it for some years afterwards as VE3TTR, on 220 MHz, well away from intermod. We then moved the autopatch to my apartment, taking advantage of paying only for a residence line unlike the business line we had to rent at 95 St. Clair Avenue West.

During those four years, development went from the PDP11's at Van's workplace to my apartment – using an ASR35 teletype procured by Croft Taylor, VE3CT (SK) to load the paper tape) – to a PDP-11 at my QTH, then finally to a barn at the farm of Steve, VE3GBK (now VE7SGW), where the program was completed.

One little trivia note. The backplane for the cards that make up our controller was actually wired not by me, but by Dave, VE3GYQ (SK). I was not moving fast enough on the project and so he came to Toronto after one shift at the ER in London, Ontario where he worked as an emergency physician, and wired it up. Later on, I wired the backplane for VE3TTT/VE3SUE in London, but they designed their own micro to drive it based on the Digital Equipment T11 chip, which was the grandson of that PDP11 that Van and I had dreamed of using all those years before. Sadly, this equipment was taken out of service when Dave left to practise medicine in Ohio since it could not be maintained without him.

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That is not the end of the story. While most of the code was written by Steve, VE3GBK and Tim – a graduating engineering student from the University of Toronto who used this as his capstone project – many more additions were made in later years. At one point, the code was so big that more memory space was needed and so the club engineers built a new board. The new code had provision for IPARN, the commercial satellite-based linking system across Canada. When IRLP came into being, they changed this code again to accommodate that system.

For many years I was out of the picture. Unfortunately, when the repeater got hit by lightning somebody remembered that I “did” micros. Unfortunately, although the backplane and audio switching matrix was the same one that I designed, the micro hardware was two generations later! The micro now had a custom gate array logic chip to decode the addresses for all the peripherals.

The lightning entered the system through the autopatch card – evidenced by the fact that this card was one solid mass of burned charcoal-like substances! We had broken our own rules at the shack to put this in: no wires going into or out of the equipment rack. This had held us safe for the previous 30 years and we knew that the repeater had been hit by lightning several times. On one occasion, Van, VE3ARV, went up to find out why the hydro was not back on – although the repeater was still running on batteries – and found the hydro meter was one vapourized mass melted against the inside of the glass shell. Even now, when

## “Coaxial Lightning Arrestors”, continued from page 24

Please ensure that the Type 1 gap is adjusted to at least one full turn to avoid possible shorts to the centre conductor, which may develop due to thermal changes causing expansion and contraction of the internal parts. This may reduce the gap distance or short circuit the gap.

Weatherproofing is essential since these devices are required to be mounted outside of the house to divert ground currents out there. I recommend wrapping the connectors completely in black electrical tape (Scotch #88) overlaid with a fusion tape to provide a rain barrier. A third layer of black tape is recommended for UV protection.

### FURTHER REFERENCES

A far more detailed report with other relevant information is available on the following websites:

North Shore Amateur Radio Club:

[http://www.nsarc.ca/tech\\_archive/Articles/Notes\\_on\\_Coaxial\\_Suppressor\\_30sep2013.pdf](http://www.nsarc.ca/tech_archive/Articles/Notes_on_Coaxial_Suppressor_30sep2013.pdf)

ORCA DXCC:

[http://www.orcadxcc.org/content/pdf/Notes\\_on\\_Coaxial\\_Suppressor\\_30sep2013.pdf](http://www.orcadxcc.org/content/pdf/Notes_on_Coaxial_Suppressor_30sep2013.pdf)

Some other sites which provide additional information about lightning that would be interesting and useful to contemplate can be found at:

<http://www.nsarc.ca/hf/lightning.pdf>

[http://www.nsarc.ca/hf/surge\\_prot\\_rev2.pdf](http://www.nsarc.ca/hf/surge_prot_rev2.pdf)

[http://www.orcadxcc.org/content/pdf/Lightning\\_Protection\\_Orca\\_9apr13.pdf](http://www.orcadxcc.org/content/pdf/Lightning_Protection_Orca_9apr13.pdf)

you use IRLP from any of the Toronto FM Society Repeaters, you are going over a radio channel to the IRLP equipment and an Internet connection that is on the far wall of the shack to achieve this isolation.

We decided not to try to replace the autopatch. After five trips up to the hill, each time taking a bigger bag of parts, our hopes were dashed – the custom gate array chip was blown!

Surprisingly, it was designed by an engineer that worked for Van's company and we were still in touch with him. When we called him, he mentioned that he still had the floppy disk with the formula on it, but had almost thrown it out a few weeks earlier during an XYL-ordered cleanout of his basement! Suffice it to say that some blank parts were ordered and programmed and the floppy kept for safekeeping.

That is how RPT is still on the air. And if you tell these young hams how hard we used to have it, they won't believe you!

### Historical note:

Although VE3RPT was the first Amateur licensed repeater in Canada, it is not true that it was the first repeater on Amateur frequencies. The Motorola ARC received an experimental (VE9) licence to operate a 2 metre repeater at the Toronto Motorola office. So theirs was the first repeater on Amateur frequencies, although it did not have an Amateur licence. (Thanks to Lloyd Kubis, VK4ERQ, for this information)

VE3RPT and the other eight repeaters on the TFMCS System are now becoming aged and difficult to maintain. This site has served the Greater Toronto Area faithfully for 40 years and pressure is on the Society to relinquish the site for commercial operators. No wonder, because it is on the highest piece of land in this part of Southern Ontario. If you live in the area or are simply interested in preserving this site for future generations to enjoy, please consider joining us or sending a donation to help TFMCS keep up the good work.

*Originally licensed as VE3APZ in 1969, and finding himself constrained to apartment-dwelling, Nigel immediately became attracted to the new area of FM and repeaters. His early employment at Bell Canada as computer technician led him to want to use computers for repeater control, and his early efforts as part of the team to redesign VE3RPT's relay and transistor control logic led to an eight-by-eight crosspoint matrix design. At the Uxbridge site in 1981 it was run by a Motorola 6809-based micro, as well as at VE3TTT in London with a Digital T-11 micro as its controller.*

*Nigel Johnson, VE3ID, was one of the very first Canadian Amateurs to get the Digital Amateur Radio Operator's certificate, but admits he never used any of the digital modes before that class was abandoned by Canada. It was too much like his worklife! As VE3ID since 1984, he still operates mostly mobile, as well as operating an APRS digi/igate, and produces several streams to the liveATC.net server as an aside to his Amateur Radio activities. As a Professor at Sheridan College, he also operates VE3SCI.*



# CHANGING OF THE GUARD AT VE1JF...

**Andy Neimers, VA1FJT ... and still  
The Friendly Jungle Telegraph**

The Fundy weather gods were being kind; most kind. It was Saturday, October 5, and hardly a breeze was fluttering through Hannelore Fisher's flower beds while Jim Fisher, VE1JF and his group of ham friends and neighbours – there for the big show – could not have asked for better tower work weather.

That was the point of it all – Jim's massive and famous tower array, looming above the Bay of Fundy near Victoria Beach, had been described by more than one observer as being the "Antenna Destruction Laboratory". Certainly by the Force 12 folks in Texas who kept building and modifying their beams over the years, based on his advice. Today it was being scaled back somewhat.

Over many years Force 12 had used Jim's insights and feedback into beefing up their products to have Amateur antennas stand up to not just "heavy winds", but "Fundy Class winds" and salt air; hence the destruction laboratory moniker. F12 now even sells the extreme-weather upgrade to its antennas with a "jf" suffix, such as his new OWL-1106jf moonbounce antenna.

Back in September/October 2009, when TCA ran its first special Antenna Issue, I just happened to luck in with an item of my own about destructive wind considerations, while Jim's massive tower was featured on the front page of that issue and also on page 13. My own musings were in response to Hurricane Katrina, and my first winters on St. Mary's Bay in Nova Scotia, some 16 kilometres from Jim's place.

To appreciate the challenge in Jim's case, one has to realize that he initially set out in 2000 to build a multi-multi "gangbuster" contest station, with a dynamite location some 330 feet above salt water. Great location, and great view, as evidenced by Roger Sturtevant, VE1SKY's picture on TCA's front cover. A lovely red sunset shot typical of the Bay of Fundy but no indicator as to what the same scene might look like in a winter blow. So there we were this Saturday, crossing our fingers.

After one false start via a wrong tower choice, Jim got "sympatico" with the design team at Force 12, and giving them good feedback got them to eventually build and steadily upgrade a three-yagi phased array consisting of a C31XRH sandwiched by two 17-element C51XRNs with 51-foot booms rated at 180 mph!



**Drama in the Sky**  
(photo by John McCrossan)

Jim of course was familiar with the "beast at hand" having worked on it before many times. He really should be designated as a living Bluenose Treasure for his expertise up a high tower and many a Nova Scotian Radio Amateur wonders what they will do if he ever retires!

The big lift operation went smoothly with no

This Saturday it was coming down, along with some other beams further down the well-known 110-foot tower plus tower and guy wire sections to leave 40 feet still pointing at the heavens. After years of running one of the most famous multi-2 contest stations in Eastern Canada – and since 2006 a gangbuster DX station – Jim had decided to concentrate his skills on 6-metre EME. But also restoring a modest Cushcraft multiband vertical to talk to his friends on HF from time to time.

As often before, Joe Keddy's high lift crane arrived on the scene at 10 am, much to the interest of Jim and Hannelore's Victoria Beach neighbours. Their assumption was that something "commercial" was going on given the scale of the operation. But what that's you say? Just another one of those eccentric ham radio operators "finetuning his operation?" Anyway, time to take some pictures for sure...

It was indeed a carefully orchestrated and day-long process of de-construction as the WARC-7 beam was taken down first to allow maximum clearance for the action to follow, followed by the massive C51XRN which had been sitting there proudly 330 feet above sea level. Then guy wires, supports, and 10 or 20 foot sections de-rigged by the expert hands of Jim Sutherland, VE1JDS, of Brookfield, Nova Scotia.

swearing, just the usual high anxiety for all involved as Brandon, the Keddy's crane operator, finessed first the lift off the short top pole section, then the swing out to clear the lower sections, and then the lowering. The big beam sat on the ground a quarter past noon.

*"A lot of history coming to an end here guys," observed Jim.*

The 51-foot long, 600-pound boom made quite the "driveway ornament" as Jim and I started to remove the many elements. It was the second boom made by Force 12 for Jim to handle the salt air and withstand potentially 180 mph winds. By late afternoon the deed was done and Jim was left with a 40-foot tower sporting his 11-element, six metre beam for moonbounce work.

Jim and I spent the afternoon sitting astride the huge boom, wrenches in hand while the other tower sections were lowered, removing the elements and having a long chat about his operating insights.

In a quiet reflection he admitted that today's venture had been preying on his mind for some time. "I wondered about how I would feel about this day. But I feel fine."

No doubt because he is already running the permutations and combinations of installing and rigging the six metre beam's twin. And then there's that Cushcraft vertical to be restored, mounted. And a long career in Amateur Radio to be continued...

Andy Neimers was licensed in 1989 and picked the call VE7FJT. The FJT turned into the "Friendly Jungle Telegraph" when he started writing his regular column on "the Amateur and the Internet" for The Canadian Amateur. That ran for five years and some 50 columns. He now operates as VA1FJT from Digby Neck, Nova Scotia and gets inspired to share his brand of "humour" now and then.

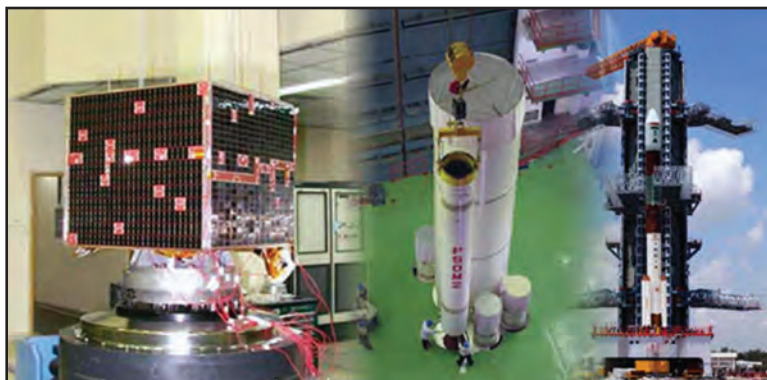
**After the long day is done, Jim Fisher, VE1JF (left), shares a thank you moment with well known high rigger, and just the man for lofty heights, Jim Sutherland, VE1JDS.**





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# AMATEUR RADIO SATELLITES



A photomontage showing VO-52 and its PSLV-6 launch vehicle prior to launch. (Courtesy: AMSAT-India)

## VUSAT OSCAR 52 (VO-52)

In previous columns, I have been assisting those interested in receiving (and if properly licensed) actually working through our growing fleet of Amateur Radio satellites to do so with just modest radio equipment.

In this edition, I'll turn the spotlight on one of our newest (linear) analog satellites.

VO-52 (also known as VUSAT and/or HAMSAT INDIA prior to launch) is yet another of AMSAT's so-called "Microsat" series of spacecraft.

Weighing in at a rather hefty 42.5 kilograms (93.7 lb), it was launched into a 97-degree inclination, "Sun-synchronous" polar orbit as an auxiliary payload aboard an Indian Polar Satellite Launch Vehicle (PSLV-6) on May 5, 2005 by the Indian Space Research Organization (ISRO).

VO-52 shared the launch vehicle with CARTOSAT-1, an Indian Remote Sensing satellite, which itself weighed in at a whopping 1,560 kilograms (3,440 lb).

VO-52 was India's first-ever contribution to the international Amateur Radio community and was intended to bring ISRO's satellite services within easier reach of the "common man" while also popularizing space technology among the masses. What's more, VO-52 met a long-felt need for the Amateur Radio satellite operators in the South Asian region.

### WHAT'S A "SUN-SYNCHRONOUS" ORBIT?

As VO-52 (along with many other Amateur satellites) share this type of orbit, it's important to know what this term means.

A *Sun-synchronous orbit* (sometimes called a *heliosynchronous orbit*) is an orbit which combines altitude and inclination in such a way that objects in that orbit appear over the same point of the Earth's surface at approximately the same local "sun time" each day.

Satellites that need consistent lighting, such as those that image the Earth's surface in visible or infrared wavelengths (like weather and spy satellites) or for other remote sensing purposes (such as those carrying ocean or atmospheric remote sensing instruments) are routinely launched into Sun-synchronous orbits. And because VO-52 was launched as a secondary payload aboard a rocket that carried a remote sensing satellite, VO-52 ended up in the same relative Sun-synchronous orbit as the main payload.

### STRUCTURE

VO-52 consists of a cube-like structure measuring 630 mm X 630 mm X 550 mm (25 inches X 25 inches X 22 inches) made up of aluminum honeycombs. Passive thermal control is achieved by spinning the satellite at a rate of about 4 RPM with a  $\pm 3$  degree spin axis orientation.

Body mounted solar panels and COTS (Commercial Off The Shelf) Lithium-Ion batteries provide the main sources of onboard power. Multi-element turnstile antennas are also shared between VO-52's transponders and for transmitting downlink telemetry.

### TRANSPONDERS

VO-52 carries two linear (analog) inverting transponders. William Leijenaar, PE1RAH, a Dutch Radio Amateur and graduate engineering student at the Higher Technical Institute at Venlo in the Netherlands, built the first transponder. Amateur Radio enthusiasts and others at ISRO built the spacecraft's other transponder.

Both transponders operate in Mode U/V (Mode B) with uplinks at 435 MHz and downlinks at 145 MHz (see the Table below). An unmodulated carrier on 145.936 MHz identifies the Indian transponder while the Dutch transponder emits a CW signal on 145.860 MHz. The output power of both transponders is about 1 Watt. Transponder bandwidth is approximately 60 kHz for the Indian transponder and 50 kHz for the Dutch transponder. Unfortunately, there's not enough spacecraft power to run both transponders simultaneously so only one transponder can be activated at a time.

### HOW, WHEN AND WHERE TO LISTEN

Since its launch in 2005, VO-52 has become yet another popular linear (analog) Amateur Radio satellite. Its one-watt transponders and turnstile antennas provide surprisingly strong downlink signals... even for those using modest satellite antenna arrays.

However, because VO-52 is in a relatively low, 646 X 607 kilometre (about 401 X 377 mile) orbit, it appears to be moving a lot faster than

Portions of this article previously appeared as "Spotlight on VUSAT OSCAR 52 (VO-52)" in the February, 2012 edition of Monitoring Times Magazine. Thank you MT!

VO-52 FREQUENCY AND MODE DATA			
Mode	Uplink (MHz)	Downlink (MHz)	Beacons (MHz)
U/V (Indian)	435.220 – 435.280	145.930 – 145.870	145.936 MHz (Carrier)
U/V (Dutch)	435.225 – 435.275	145.925 – 145.875	145.860 MHz (CW)



most other so-called “low Earth” Amateur Radio satellites. This translates into a somewhat smaller footprint on the Earth, somewhat reduced access times (on the order of only about 15 minutes or so on each pass) and *far more noticeable* Doppler shifts on both uplink and downlink signals. This also means that you’ll need to keep a fresh set of Keplerian elements running in your satellite tracking software to make absolutely sure your timing is correct to catch the satellite’s entire pass at your location.

As with operation on our other linear satellites, when VO-52 first pops over the horizon, I set my *downlink* frequency in the middle of the passband (at, say 145.900 MHz) and then send a few widely spaced CW “dits” on the uplink while tuning the frequency of my uplink signal around. Once I hear my own “dits” coming back to me on the downlink, I immediately know I’m getting into the bird and I can then start actively looking for a contact.

At press time, VO-52’s Indian ground handlers were experiencing some difficulty with one of the satellite’s transponders and were running tests to track down the problem. So don’t be surprised if you discover that both of the satellite’s transponders have been switched off over your location. Just keep trying on another orbit (or on another day) and (hopefully) you will eventually be rewarded with a very pleasant contact through VO-52.

Clearly, our Indian and Dutch counterparts have done a superb job in building and launching this satellite. Hopefully, VO-52 will prove to be the first in a long line of satellites built and launched by AMSAT-India with the help of the ISRO.

More information about VO-52 and AMSAT-India can be found at:  
<http://www.amsatindia.org>

## LOOKING AHEAD

That’s all for this time. In future columns, I’ll be keeping you up-to-date on all the latest developments in the fascinating world of Amateur satellites as well as taking a look back at some interesting early history of various projects that first took Amateur Radio into space.

See you then!



## MEETINGS OF ITU-R SG-5 WORKING PARTY 5A IN GENEVA

November 18 to 29, 2013

*Bryan Rawlings, VE3QN  
Special Advisor – WRC-15  
Radio Amateurs of Canada*

Many TCA readers may recall a series of articles in TCA which appeared prior to the 2012 World Radiocommunication Conference (WRC-12). That conference went rather well for Radio Amateurs with the highlight being international approval for a new Amateur Radio band at 472 to 479 kHz which is currently working its way through our Canadian approval process.



Current activity with the spectrum management personnel at Industry Canada and at the International Telecommunications Union (ITU) in Geneva, Switzerland centres on the next WRC which will take place late in 2015. As was the case for WRC-12, RAC – through the Defence of Amateur Radio Fund (DARF) is sponsoring a representative to monitor and, where possible, influence Amateur Radio interests among the agenda items of the 2015 Conference.

Notable among these is an item (Agenda Item 1.4) which would seek to establish an international secondary allocation to the Amateur Service somewhere in 5.25 to 5.45 MHz. (This is – it should be emphasized – a separate initiative from the many administrations who are allowing their Amateurs some access to 60 metres using an exception clause in the international radio regulations).

I have attended four of the preparatory meetings for WRC-15 in Geneva and Canada has been very active in preparing and arguing the documents in support of a 60-metre Amateur allocation.

In a future TCA article I hope to explain in more detail than this space allows what those documents are and how they may hopefully build support for a positive outcome in 2015. For the moment let me say that we have detailed the technical characteristics of the signals Amateurs might generate at 5 MHz; we have written a compelling argument detailing the circumstances in emergency and disaster relief situations where access to 5 MHz may be critical; and – finally – we are working through a technical argument of how Amateur use of these frequencies would be compatible with the existing primary users.

This is not the first effort to obtain an international allocation to the Amateur Service at 5 MHz. It has never been easy; however, with the efforts of Amateur colleagues from several countries, the case for an allocation has been presented and argued with great discipline, both technically and politically, and there is reason for cautious optimism.

Among other items which will be considered in 2015 is a proposal to make an international allocation to the radiolocation service for automotive collision-avoidance radars in 76 to 81.0 GHz. Radio Amateurs have an allocation in this range including a primary allocation in 77.5 to 78.0 GHz. Work is underway to try to set out the characteristics of Amateur use of this band and to determine the ability of these operations to coexist with use of the frequencies by automotive radars.

I have been assisted in these issues by the staff of the Spectrum Engineering group in Industry Canada, most particularly by Christine Hsu who has been the Head of Delegation for Working Party 5A where these matters are debated. We are also in the debt of Dr. Nur Serinken of the Communications Research Centre who has lent his expertise as an HF propagation expert and long-ago (in Turkey) Radio Amateur to assist us.

**Note:** DARF is a Trust Fund established in the early 90s by the Canadian Radio Relay League to provide financial support for research, and to defray travel expenses of a delegate to World Radio Conferences to defend the Amateur Radio bands. The fund is maintained by Donations from individual Canadian Amateurs and from Canadian Amateur Radio Clubs. Please visit [darf.rac.ca](http://darf.rac.ca) for more information.



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# QUA – A TOPICAL DIGEST

"So it actually IS a T-match; it just has two adjustable branches instead of the more common three adjustable branches, restricting the operating Q range and matching range.

The ATR10 is more like the common old Johnson matchbox, with the exceptions that instead of a link it has a tap and it is single ended. The tap sets the operating Q, just as the link ratio sets the operating Q in a Matchbox. This restricts the matching range and operating Q range.

Tuners that fix the operating Q at a certain value, or limit the operating Q range, will always restrict matching range. The operating Q restriction limits peak voltages or currents by preventing grossly improper adjustments, but the very same thing that limits voltages or current by definition also limits matching range.

An L network limits matching range the most of any network for a given range of component values, but also limits operating Q the most. It has only one operating Q available at any given impedance ratio. The Q varies with load impedance. You cannot have too much Q, or it won't match.

"Several years ago, I wrote a three-part series of articles for QST about a high-power homebrew T-match autotuner. Part I of the series (QST, April 2002, p.40) shows two graphs... that give the range of adjustment values for Cin, Cout, and L for a T-match network, using the 160m band as an illustration. The first graph shows the values of Cin and Cout (for different values of L) required to match resistive loads from 3-800 ohms. The second graph is the more interesting one for this discussion, because it shows the percentage power loss in the T-network for different values of L.

Here is the key point: With a T-network, the lowest power dissipation occurs with the smallest value of L that will give a match. To illustrate the importance of this rule of thumb, suppose one is matching a 6.25 ohm feedline (8:1 VSWR) at 1.8 MHz. According to the graph, the largest practical inductance that can match this load is about 25 uH, while the smallest practical inductance is about 2 uH. Although each inductance will give a satisfactory 1:1 match (assuming Cin and Cout are properly chosen), the 25 uH choice dissipates nearly 40% of the transmit power in the tuner, which is about 600W at the legal limit. Goodbye tuner! On the other hand, the 2 uH choice dissipates only about 45W. (Note that these values are only for resistive loads, but they illustrate the general principle.)

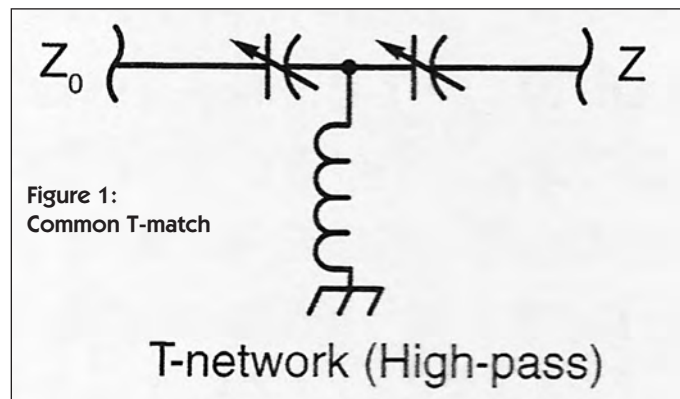
There is a tradeoff, unfortunately, in using the smallest possible value of inductance to match a given feedline, and that is that large values of Cin and Cout are required. For this example, using a 2 uH inductance requires Cin and Cout to be greater than 1000 pF. With a 25 uH inductance, Cin and Cout only need to be about 100 pF. The problem is that designers of commercial and homebrew T-network tuners sometimes skimp on the capacitance range available, instead opting for larger (and cheaper) inductors. Buyers are initially pleased at the low cost and wide matching range of their spiffy new tuner, only to discover later that the tuner destroys itself when they turn on their amplifier. And the problem is compounded if they tune their T-networks incorrectly by following the wrong rule of thumb!"

## K3 AND TS590S

Comparing these two popular transceivers, **NL7Y** says he owned a well-filtered Elecraft K3 and a TS-590S Kenwood together. He found that for city noise the 590S had a more effective DSP noise blanker (the NB2), slightly better DSP noise reduction, and equally good CCB rejection.

## THE X-MATCH

A question on the Topband Reflector about the Ameritron ATR-10 transmatch somehow morphed into an interesting discussion about the merits of the XMatch, a commercial product marketed by N4XM at: <http://n4xm.myiglou.com/>



This is, unfortunately, the way the world works. Everything is a tradeoff of matching range, cost, complexity, and power rating. No single network... is all things to all cases.

### W8JI commented:

"The X-match is... a T-match with a fixed capacitor in one leg."

**Note:** I believe the N4XM XMatch has a switch that enables you to use the fixed capacitor in the input or output – VE7BS.

### W8JI continues:

"In a T-match, operating Q can be varied over a wide range by adjusting L/C ratios. By restricting the range of one leg, operating Q range is limited."

The widest matching range for a given cost is a T network with two adjustable capacitors and one shunt inductor. Unfortunately, people think (and articles repeat) the silly idea that the proper way to tune is to start with capacitors at half and tune for maximum receive.

Most of any improvement centres around preventing people from doing something silly, by limiting what they can do. There isn't any magic circuit."

### On the same topic, W8ZR said:

"Many hams damage their tuners by unwisely choosing a combination of C and L that dissipates much of their transmitted RF in the tuner itself."



The K3 had slightly better CW filtering and "cleaner" ultimate signal on 160m with the available very narrow roofing filters, those narrower than the 590S. However no 160 DX on the K3 was inaudible on the Kenwood. He currently owns the 590S mainly for its NB2 function and easy user interface.

#### KB8NTY commented only on the TS590S:

"Regarding 'city noise'... My Kenwood TS-590 performs true magic by means of use of the noise reduction control! NR1 is an analog type, with NR2 a DSP type.

Living in a suburb of Cleveland, Ohio in a populated city lot, with power, telephone & cable lines across my lot, the Kenwood TS-590's noise reduction is almost unbelievable. Compared to my TS-440, TS-450, TS-511, TS-850 & TS-930 Kenwood sure got this function performing beyond what I ever experienced in an HF transceiver!

With the usual 'noise' we city dwellers experience, using the noise reduction function the noise is completely gone and it leaves nothing but the pure CW tone, almost in an eerie manner. Only thing I can compare it to was my Ten-Tec Century-22's well known filter system; you hear nothing but the station desired. No white noise no atmospheric noise – nothing."

#### K2AV had this to say about the K3:

"Listening on a very large quad on Europe, my MP had a low level of noise that I always thought was the ambient noise floor. The K3 showed that the prior noise floor was really the MP's receiver. The K3 was able to hear a new layer of weak Russian stations never heard before. The K3 was also remarkably better at rejecting close very loud CW signals (as in up or down 400 Hz), using the 8 pole CW filters. It even has noise blanker settings that significantly help with key clicks.

The front end of the K3 has band pass filters for the ham bands. They are deep enough that if I want to listen to the Yankees baseball games on 880 kHz, I need the add-on filter that passes the non-ham frequencies. The preamp of the K3 is mild, only about 10 dB, so the low levels of some RX antennas will still need a stand-alone preamp that still may need a passband filter in front. It is also possible that if your city noise is loud enough, the noise level will cover up any real difference between a Pro III and a K3."

#### WAYNE GREEN, W2NSD (SK)

Wayne Green, long-time publisher of *73 Magazine*, sure made his mark on Amateur Radio. '73' was always interesting and useful, often quirky and certainly not authoritative, as he usually printed just what the contributor wrote, without any benefit of "peer review". He had a habit though of exercising the editor's privilege of choosing a title. I recall one time I submitted an article with a title carefully composed with "keywords" that would attract the attention of search engines, something like "160 Metres and Gray Line Propagation", but it was published under the heading "When Darkness Falls". A title guaranteed to result in just about no "citations".

Wayne was a thorn in the side of the American Radio Relay League and it was gracious of the League to publish a friendly obituary article on the web: Ham Radio Publications Pioneer, Visionary, Iconoclast Wayne Green, W2NSD, SK": <http://www.arrl.org/news/ham-radio-publications-pioneer-visionary-iconoclast-wayne-green-w2nsd-sk>

There is also an interesting note on the *Monadnock Ledger Transcript* website at: <http://www.ledgertranscript.com/artsliving/8535625-95/wayne-green-magazine-pioneer-dies-at-91>

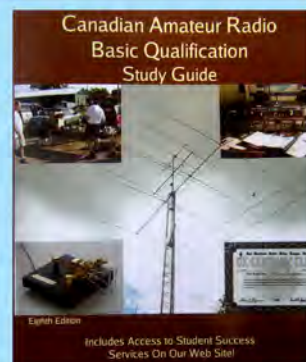
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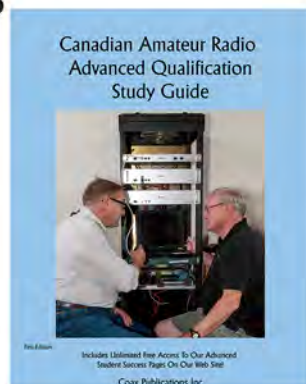


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Nous souhaitons la bienvenue aux nouveaux membres suivants de Radio Amateurs du Canada pour octobre et novembre.*

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Paulo A Francisco, VE3RAO  
Gregory Michael Franklin, VA7BC  
Janet S Fraser, VE3FUN

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Steve Regan, VA3MGY  
Gilles Renucci, VE2TZZ  
Earl Richardet, VE7QJ  
Dennis G Ritchie, VE3DXZ  
Jeff Robbins, VE3JTR  
Ed Roberts, VE3KSW  
Bernie Roche, VE3OTR  
Peter Rogers, VE3ETR  
Bruce Roney, VE3BER  
Donald Rowed, VE3KII  
Gerry Saelens, VE7DCW  
Edward Samborski, VE3TAS  
Patrick Sandi, VE7SDI  
Brian Sayer, VA6BCS  
Bill Scholey, VE7QC  
David Scott, VE3ZZU  
Joseph T Scott, VE3ADB  
John D Scott, VE1JS  
Ian Seddon, VE3HUT  
Ellis Seddon, VE4AJO  
Kieran Shepherd, VA3KS  
Robert A Shkurotoff, VA7DIV  
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George B Simpson, VE6HX  
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William E W Skuta, VA3WEW

Steve Gibson, VE3XSG  
Greg Gignac, VE3YGG  
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Bill Hay, VA3PPC  
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Michael David Hiltner, VE5MDH  
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Corene Jones-Litteer, VE7BIC  
Stefan P Jurkovic, VE5ACB  
Thomas Daniel Kelly, VE6TDK  
Ward Kennedy, VE3WKG  
Vera Koladubsky, VA4VMM  
Richard A Kowalski, VE9VHF  
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Weyburn Fire Department Library  
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Noel T St-Amand, VA3TS  
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Rob Steenweg, VE1CHW  
Dean Stennes, VE7NEW  
Al Stephens, VE3NXP  
Jeff Stewart, VA3WXM  
Jack Summers, VA3XR  
Hiroshi Takahashi, VA7LET  
Ann Tekatch, VA3NOE  
Jason Timmis, VE7AG  
Yori Tsuji, VE4ACX  
Ian Graham Turnbull, VE7TGI  
WL Underwood, VE1WLU  
Bill Unger, VE3XT  
Henry Urbanowicz, VE3OEO  
Ronald Vadeboncoeur, VE3REV  
A E Vaillancourt, VE3DPZ  
Hudson C Vallieres, VE9HCV  
Todd Van Norman, VE7GBO  
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Bill Northcott, VE7WNO  
Jose Manuel Oliveira Gomes  
Pedro, VE3NLE  
Philip James Parker, VE3GFX  
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Timothy Wood, VA7TIW  
K Scott Wood, VE1QD  
Allen Wootton, VE7BQO  
James E Wyse, VO1CPZ

# BURNABY AMATEUR RADIO CLUB'S NEW MOVEABLE BASE STATION

In September 2013, the Burnaby Amateur Radio Club moved into the newly rebuilt Edmonds Community Centre. This called for a new base station as our old station had found a new home at the Red Cross. This gave us an opportunity to design a more user friendly and updated moveable station. Ron Hill, VA7AUZ, took on this project after consulting with the club. Many new ideas were incorporated in the design.

It was our wish that the main part of the station would accommodate a radio operator and an assistant who would log and handle traffic. The station could be used for contesting, net control and general voice/data transmission and receiving. Some of the features contained in our control box were separate jacks and volume controls for headsets, a jack for a headset with microphone and speaker and special plug-ins for straight key, keyer or bug. Also included were external speakers which could be switched off when necessary and a power switch which could shut down the complete station. We also added a fan that would keep the finals of the IC7000 cool.

The radio equipment was updated to an ICOM IC-7000 transceiver, ICOM AT-180 automatic tuner, and an Astron 32 ampere switching power supply. The station is equipped with a signal link external sound card which is used to send data on the HF Bands. A control box was built to handle the above specifications. The upper shelf contains a control box for the antenna rotor and two 4-ohm speakers, wired in series.

The left half of the station contains a flat screen monitor, a mouse and a keyboard. The computer is located in the lower section of the cabinet.

The rear panel of the station has two positions. Position 1 opens to 90 degrees and it can be used for two additional auxiliary stations for voice and data operation.

Position 2 opens to 180 degrees to give unobstructed access to all the wiring and antenna hookups.

Also stored in the lower compartment of the station are two complete working kits which can be used for training on voice and voice/data.



The antenna system consists of two heavy duty tower sections which are bolted to a concrete wall on the top of the community centre building. The beam is a Mosley Classic 33 and a dual band dipole antenna for 80/40 metres will be used. The rotator is a Ham 3 and a dual band vertical will be used for VHF/UHF operation. A spare VHF antenna is available for data and voice communication.

The cabinet size is 4'-0" wide, 4'-0" high and 2'-0" deep and the cabinet height with wheels is 4'-4". It was planned and constructed in the workshop of Ron Hill, VA7AUZ. Lou Beaubien, VE7CGE, was his assistant.

We would like to thank the following companies and individuals for their valuable contributions of materials, radio communications equipment, antennas and of course the hundreds of hours of time to make this happen.

Rona Canada donated all the birch plywood, hardware, paint and extra supplies for the cabinet.

The City of Burnaby donated radio equipment to the club. Peter Kong, VE7VPK, donated the computer, keyboard and mouse.

Ron Hill, VA7AUZ, donated the flat screen monitor, and many hours of his time to plan and build the station, overhaul the antennas and tower. Ron also wrote the operating instructions for the station.

Eric Stapleton, VE7EES, donated a brand new 80/40 metre dipole.

Lou Beaubien, VE7CGE, donated the Classic 33 tribander, the control box and many hours of time building the station and overhauling the antennas and tower.

The tower and antennas were installed by the following Amateurs:

John Parkins, VA7SPK, Ian Procyk, VE7HHS, Eric Stapleton, VE7EES, Karla Wakefield, VA7KJW, Keith Witney, VE7KW and Al Ross VE7WJ.

Sincere thanks to all.

*Burnaby Amateur Radio Club, VE7BAR*



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## NORTH SHORE ARC HOSTS RAC PRESIDENT AND AGM OF COORDINATION COUNCIL



RAC President Geoff Bawden, VE4BAW, visited several Amateur Radio clubs in British Columbia this fall. On Thursday, November 7, he attended a meeting of the North Shore Amateur Radio Club in North Vancouver. An enthusiastic audience of 40 members enjoyed Geoff's presentation and peppered him with numerous questions on RAC activities and how to help RAC grow. Almost two-thirds of the club are RAC members.

The above photo shows (from left): Bill Gipps, VE7XS (RAC Director for British Columbia / Yukon), Keith Witney, VE7MID (President, North Shore ARC in Vancouver) and Geoff Bawden, VE4BAW (RAC President).

Earlier in the year, on Sunday May 26, the North Shore ARC hosted the Annual General Meeting of the BC Amateur Radio Coordination Council, which coordinates VHF and UHF repeaters in British Columbia. Their AGM report is provided below.

### 2013 AGM OF BC AMATEUR RADIO COORDINATION COUNCIL

The AGM was attended by 32 delegates representing 19 Amateur Radio clubs in the Province. The meeting received reports from officers concerning repeater coordinations and activities in the past year.

The number of repeaters in the province rose to 459, a net increase of seven from the end of 2011. Most (251) are in the 144 MHz band; 172 are in the 440 MHz band; and the rest (34) are in the 50 MHz, 220 MHz and bands higher than 902 MHz.

The greatest concentration of repeaters is in the southwest corner of BC,

From left: Ed Gorse, VE7EDE, Ian Procyk, VE7HHS, Nick Gaudiuso, VE7TE, Jim Forsyth, VA7FJE, Dom Kapac, VA7CRO, Mike Garneau, VE7CL, Bill Tracey, VE7QQ, Ian McLaughlin, VE7BST, Ed Frazer, VE7EF



which also has the greatest concentration of population, and is adjacent to Washington state with which the repeater spectrum must be shared. Because of the mountainous nature of this region, propagation distances can be very large, thus restricting the ability to reuse repeater channels.

As a result, all 144 MHz and most 440 MHz repeater channels are occupied in southern Vancouver Island, Greater Vancouver, and the Okanagan Valley, thus preventing new repeaters from being activated. The meeting discussed solutions to this challenge including the sharing of repeaters and co-channel operations. However, the biggest barrier appears to be the repeaters that are inactive, but where the existing repeater operator vigorously resists giving up or sharing the channel. The meeting decided that the Council should canvas all coordinated repeater sponsors to verify their operation and possibly free up some of the channels.

The AGM also received a report from Industry Canada's Spectrum office in Surrey, BC advising that no public complaints were received concerning Amateur Radio operations or antenna support towers, and that the credentials of two Accredited Examiners were revoked following investigations.

Directors elected to serve for the next year were as follows:

Ian McLaughlin, VE7BST, of Orchard City ARC, Kelowna, BC; Mike Garneau, VE7CL, of Kamloops ARC; Nick Gaudiuso, VE7TE, of Maple Ridge ARC; Ed Gorse, VE7ED, of Victoria New Horizons ARC, Sooke, Vancouver Island; Jim Forsyth, VA7FJE, of VECTOR, Vancouver; Bill Tracey, VE7QQ, of North Shore ARC, North Vancouver; and Ian Procyk, VE7HHS, of Coquitlam ARC.

The Directors then elected the following Officers for 2013-14:

President: Jim Forsyth, VA7FJE; Vice-President: Ian Procyk, VE7HHS; Secretary: Ed Frazer, VE7EF; Treasurer: Brian Summers, VE7JKZ; and Chief Coordinator: George Merchant, VE7QH.

The Council's website (<http://www.bcarcc.org>) contains the contact information for Officers, Directors and Coordinators, membership lists, repeater band plans, an online form to coordinate repeaters, and lists of BC and Yukon repeaters.

For further information contact the Secretary at: [ve7ef@rac.ca](mailto:ve7ef@rac.ca)

*Submitted by Ed Frazer, VE7EF*

# First Look: The ARRL PIC Programming Kit

David Dickinson, VE7SST

## INTRODUCTION TO THE ARRL PIC KIT

One of the aspects of Amateur Radio that recently caught my attention is the programming of microcontroller units (MCU). These little guys are prolific in many of our consumer electronics and there are a number that are actually marketed with the experimenter in mind. The focus of this article is to give some first impressions of the ARRL PIC Programming for Beginners kit and manual. First, I have to admit to doing zero research about the different MCUs and programming options before I made my online order on the <http://www.arrl.org> website. The kit lists for \$149.95 (USD) and the book is another \$44.95 plus shipping (see Figure 1).

## INSIDE THE KIT

It was with some degree of excitement that I received the PIC kit after it was forwarded to my worksite, north of Fort St John, at Mile 185 on the Alaska Highway. My first discovery was to find it had originated in Vancouver, British

Columbia (produced by <http://www.canakit.com> for the ARRL) and had made a circuitous route to the eastern United States and then back to the west coast to reach me!

Inside the well-padded box was a breadboard, a container of preformed jumper wires, an LCD display, a printed circuit board, two PIC MCUs, and a handful of discrete components.

Also included is a factory built, USB-powered flash burner for programming MCUs based on the popular PICKit2 design (see Figure 2). This unit has a nifty zero insertion force socket (ZIF) and handles MCUs of 12 to 20 pins. The development software is free and supplied on a CD with the book or as a download from the web.

My second discovery was that you needed a 9 volt battery to operate the circuits you assemble on the breadboard. The course presumes you have some basic electronic knowledge – such as how to read a schematic and identify discrete components – as well as have an awareness of the hexadecimal and binary number systems. As we are often told, “Actual mileage may vary,” and this kit is no exception. Some of the challenges that I’ve experienced are recounted here and so far each has had a satisfactory ending.

## THE PIC MCU

The programmable MCU supplied with this kit is the Microchip PIC16F676. It has 14 pins and is programmed using the MPLAB Integrated Development Environment.

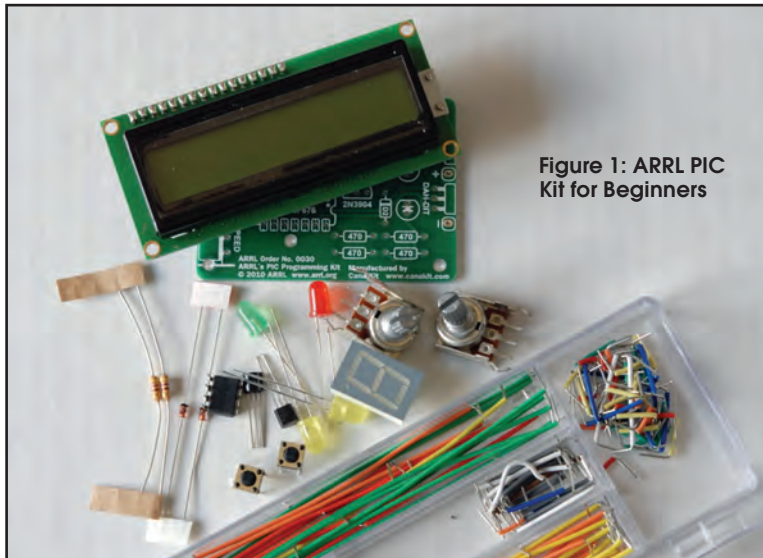


Figure 1: ARRL PIC Kit for Beginners

The amazing thing about an MCU is that you can assign alternate functions to those pins. Some might be set to be digital inputs, others to outputs, and still others to analog inputs. To duplicate the same feat with discrete components would take some serious rewiring each time you wanted to try something new. Other MCU features include analog to digital converters, timers and serial communication ability.

The Integrated Development Environment (IDE) is the software development toolset. It supports project file management, provides an editor for source code

development, includes all the necessary tools for translating source code into executable files, and includes the tools needed to download the files into the microcontroller for execution. It includes a simulator that supports step-by-step evaluation of program behaviour.

Probably the IDE tool that the user will become most familiar with is the debugger. It allows the user to set “breakpoints” to stop the program execution at selected points in the program. From there, the user can explore the contents of memory and the state of the processor in an orderly fashion in order to eliminate programming errors. There are 35 distinct commands in the assembly programming language that this PIC MCU uses.

## THE KIT PROJECTS AND LESSONS

After using the parts to build the various demonstration circuits as you progress through the course lessons, the culminating project is to solder the programmable Morse Code keyer components on the supplied circuit board. Don’t want a keyer? A casual Web search lists circuits and programs for frequency counters, LED clocks, ultrasonic range finders, voltmeters, temperature loggers and servo motor controllers to name a few. A component list is available on the ARRL Store site so you can easily source your own parts, MCU flash burner and skip the circuit board if desired.

Those familiar with word editing often use templates, which are preformatted pages that help you get started with a project such as a poster with different sized text and appropriate clip art. With the MPLAB IDE software there are also templates that help you put together the necessary files for a programming project.

First you add the “include” file which is the data about your particular MCU. Next, the actual assembly program is added and also the “asm” file.

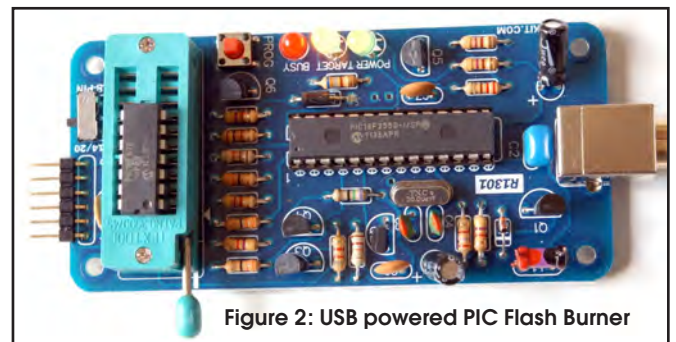


Figure 2: USB powered PIC Flash Burner



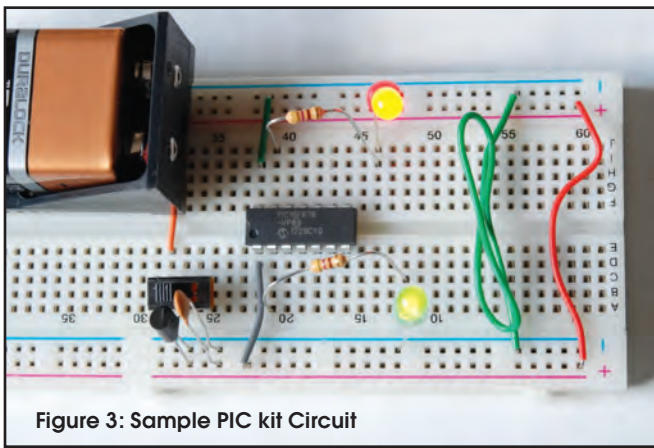


Figure 3: Sample PIC kit Circuit

At this point the simulator can be run to debug or test for errors. Lesson 5 uses a circuit with flashing LEDs (see Figure 3) to introduce you to this concept.

After the project files are in place, you click on “build” and the files are converted into a “hex” file that the MCU can understand. This is where you may get an error, as the software will not complete this step if the code is faulty. The error message will have to be dealt with so you can obtain a hex file to load your program into the MCU.

The lessons work their way through the major portions of the MCU program and use a building block approach so skipping ahead will be to your detriment. Throughout the manual, numerous screenshots walk you through using the supplied software and you are warned against downloading the latest version as it won't coincide with the kit's illustrations.

I tend to be pretty diverse in my interests so I don't see myself investing the time to become an ace programmer, but I do hope to build a few projects in the future. One likely candidate would be something like a temperature control for my home.

For those who are contemplating this kit, I would suggest having on hand a magnifying glass, some 9 volt batteries and some small part bins. I found some cool containers made for beads at a craft store. They have individual compartments with snap down lids and a rounded bottom edge that helps when retrieving the smaller parts. Having someone to call for tips, or working through the lessons in a club setting would be a good idea too.

## PROBLEM AREAS

There were a few glitches I had to work through with the software called MPLAB IDE (see Figure 4).

It doesn't automatically find files that it needs, and in one instance there was a limit on how many layers deep of sub folders it could work with. After re-reading the book carefully, a solution would become evident.

such as the BASIC Stamp, PICAXE or Arduino.

I understand the earliest version of the text and hardware supplied with this ARRL kit had issues with written mistakes and conflicts between the software and the MCU flash burner. The kit I obtained was the revised first edition and these problems have been corrected.

From my limited hands-on experience, I would say that any person who completed this course should have a good starting point for the further exploration of MCUs and would be able to write simple assembly language programs.

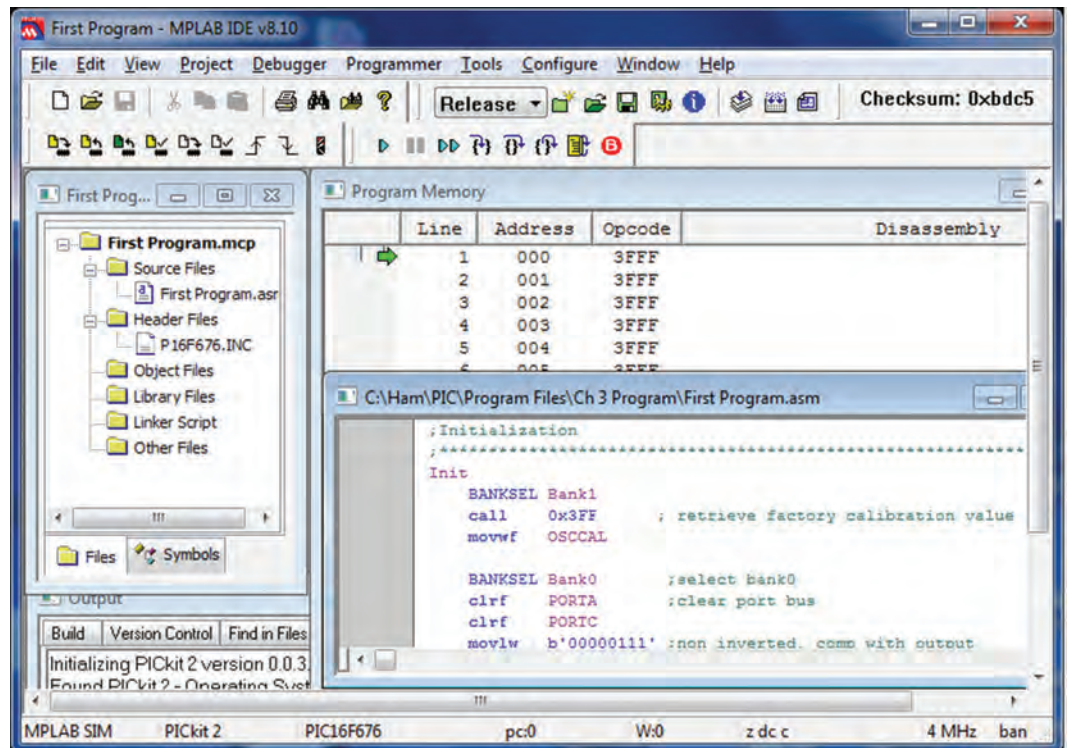


Figure 4: The MPLAB IDE

Once things were sorted out, the software ran smoothly on my 64-bit Windows 7 laptop. At this point I thought to myself, “Hmm, they don't spoon feed you!” Initially, I couldn't find the specific instructions as to the MCU placement in the ZIF socket or the position of the locking mechanism, but I figured it out. Presumably there are YouTube videos that would help you through the glitches, but my Internet (cellular) is on a pay-per-use arrangement in my part of the world so I just blundered my way through.

## MY CONCLUSION

Before you go out and buy this particular product, investigate some of the other MCUs out there. Assembly language has a steep learning curve, and one may discover they enjoy the electronic hobby more with one of the higher level units

*When I was a kid, my father, Brian, VE7BEO, helped me build a Heathkit signal generator and fostered in me a desire to be a Ham.*

*I was licensed in 1991 with the help of Mike, VE7EPQ, and my first HF rig was a set of Drake Twins. I hold the Advanced and Morse Code certificates, and have dabbled with HF, 2m and APRS. I like meeting new people, learning about them and promoting Amateur Radio. In the past I was a volunteer examiner, and recently I became the sponsor for the BC Oil Country ARC's repeater network.*

*Last summer I took a 2m handi to Hawaii and got to know several Amateurs there. A highlight was the visit to the observatories at the 13,000-foot elevation on Mauna Kea.*

*I am an electrician by occupation and over the last few years have supervised the electrical part of constructing natural gas compressor stations.*



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# RANDOM THOUGHTS...

## ... ON QUALITY

**While it is possible to** transmit a DX signal with a spark gap transmitter, there are better ways.

Likewise, if we purchase a poorly made antenna, we will be able to heat up the air, often very well if conditions permit.

It depends on the quality of the apparatus.

Surprisingly, "quality" does not mean that something is actually good or desirable, since it is, according to my faithful dictionary, rather, a peculiar and essential character, property or capacity of something.

The full definition is too long, thankfully, to reproduce here but can be found in the Q section of most dictionaries. (HI).

All this jumble of thoughts came about as I assemble a Yagi antenna, bought with high expectations, since not only was the brand name an old and honourable one but three senior hams actually recommended it as they themselves owned or had owned one.

Based on that and some "research", I took the hook and sent off my savings.

Missing hardware aside, the first thing I noticed when I unpacked the thing was how big it was.

I looked up at my little wind up mast, on long-term loan from the Yukon Amateur Radio Association (YARA), and this mast, which is 55 feet tall, looked puny.

Some doubts crept into my mind but faint heart never won him a fair maiden, nor her a handsome prince, so I forged on.

Quality pretty soon came into play.

Element parts were not uniform in length, though thankfully I had no quarrel with the diameters... the pieces telescoped together and were nice and snug.

The SS hardware was another matter. The U bolts were so soft that the nuts stripped the threads and I had to re-thread them. I also had to make an extension for the die handle as it was not possible to turn the die due to the other stripped thread three inches away.

I am used to good quality aluminium (sic), and good quality aluminium does not very often make your hands turn black from oxide.

This "quality" was inherent in the materials I received for my beam and I don't like it.

Possibly this quality was part of the reason the driven element was so weak at the traps that these drooped down like my fingers as I type.

This brought on another thought, that if I put on those little black end caps with the elements pointing down, the rain water would not be able to pour out and one or two or more things would happen: moisture might cause detuning of the carefully adjusted elements, and the weight of the water would cause the tips of the elements to droop even more, and when it froze, the tubing would split.

I shall leave this here as the continuing story may be material for further scribbling and I do not want to give the ending away.

Contrast the above with two antennas with very good qualities that ended up in my collection.



Made with care and looking like the difference between a fine watch versus a knock-off plastic three-dollar one made in the Orient, they work as well as they look.

Actually both almost never made it to my QTH. The first got such bad reviews by some experts on the matter, that I suffered serious second thoughts after I ordered it. They were wrong, but I wondered why they thought that to be true.

The other one was bought under false pretences, because the picture in the flyer belonged to the big brother of the antenna I ended up getting by mistake.

Once I set it up, with no blackened hands, it gave me a low power 2000 kilometre QSO on the very first call.

I felt good about it and took note of the excellent qualities of the product: so sleek, so well engineered in all details.

You will not be too surprised to hear I still admire both with pleasure each time I look at them.

And those qualities were well worth spending my money on.





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# AMATEUR RADIO CIRCLES THE GLOBE



The 38-foot sailing vessel *Nereida* nearing the finish line. (Photo courtesy of Jak Mang)

On October 22, 2012, Jeanne Socrates, KC2IOV, left Victoria, British Columbia in her 38-foot sailboat *Nereida*. Her goal was to circumnavigate the globe, alone, unassisted and non-stop. Jeanne, a native of England, was extremely well equipped and planned to communicate with the outside world primarily using HF radio and Winlink. For emergencies and very important contacts she also had a satellite telephone.

Jeanne endeavoured to maintain a daily online blog and answered email as she headed south along the west coast of South America. However, in early December, off the coast of Peru, her Winlink connection became somewhat tenuous. In an effort to help Jeanne out, Lor, W3QA, contacted Tom, N5TW, seeking assistance. (Tom operates a Winlink RMS Gateway in Central Texas normally reserved for EmComm use.) N5TW pointed his stacked beams toward *Nereida* and followed while Jeanne passed her traffic almost daily until she was close to the tip of South Africa (a path of more than 8,000 miles). At that point the Winlink traffic was picked up by YB0AJZ in Indonesia and ZS0JDE in South Africa. As *Nereida* continued east, her Pactor signal was picked up by VK6KPS in Perth, Australia, followed by VK3DPW in Melbourne, who was persuaded to operate his Winmor Pactor modem for Winlink use for the first time.

Unfortunately, on a long solo circumnavigation, things – including the electronics – began to fail. On Christmas Day 2012, the satellite phone failed.

However, this was only a small impediment to Jeanne as she continued her blog and email communication via Winlink. In addition, she maintained several SSB skeds using her HF radio.

On May 11, things deteriorated further when the second, and last, of Jeanne's onboard computers failed. Suddenly the email traffic and blog stopped.

Word of Jeanne's difficulties made it through to the Amateur Radio community and by May 14, Rick, WA1RKT, had set up an email reflector and began passing email traffic to and from Jeanne using SSB. At about the same time Jim, WB2REM, began transcribing Jeanne's online blog. N5TW again pointed his stacked beams toward the *Nereida* and helped relay and transcribe data as well. In June, WB2REM moved from his primary station in Florida to his home in New Jersey and N5TW established an Internet VoIP connection from his station in Texas to augment reception.

In late June, as Jeanne approached the west coast of North America and the end of her saga, the email traffic began to grow quite rapidly. Often it took two hours or more to pass the email traffic alone plus an additional 30 to 45 minutes for the blog.

At this time Rick, VE7TK, from Victoria, British Columbia, came on board and took over the blog duties. This also provided the team and Jeanne with a link to the support people awaiting her return in Victoria.

**Rick Williams, VE7TK**



A very happy KC2IOV after completing her round the world trip. (Photo: VE7TK)

As Jeanne got closer to her destination and HF propagation deteriorated, the use of a remote receiver was made available by Don, VE6JY. This really helped with the traffic relays.

On Monday, July 8, at approximately 2:26 am PDT, Jeanne and *Nereida* crossed the finish line. After nearly 260 days, Jeanne had travelled more than 25,000 miles around Cape Horn, the Cape of Good Hope, Australia's Cape Leeuwin and returned to Victoria. She maintained a daily blog and sent and received email traffic almost daily. When her computers died, the transition from Winlink to SSB messages was almost seamless to those on the "outside". By the time she had crossed the finish line almost 1,000 emails had been processed by the team using SSB.

In media interviews upon her arrival, Jeanne continued to mention her Amateur Radio friends around the world and the support they had provided.

For those of us who got to know Jeanne, KC2IOV/MM, on the air we offer our congratulations. This is an amazing effort and the fact that so many Amateurs (many more than are mentioned here) around the world, in some small part, were able to participate is something that none of us will soon forget.

**Note:** Jeanne Socrates, KC2IOV, is an accomplished sailor, a retired mathematics teacher (lecturing at university for 10 years and later teaching high school), and a 70-year old grandmother. During the trip Jeanne raised funds for the Marie Curie Cancer Care, a United Kingdom non-profit society that provides free home care for terminally ill patients. After completing the round the world trip, Jeanne took the Canadian Amateur examination with help from the Westcoast Amateur Radio Association. She is now sailing to points south as VE0JSJ. She's very proud of her new call sign!

# A Broadband Receive Antenna

Erik Skovgaard, VE7MDL

It is an attest to the Amateur Radio hobby that even though it has been 50 years since I first got my licence there are still new things to learn and things that spark my interest to the point of enthusiasm. Isn't it amazing how many aspects there are to our hobby?

Due to a keen interest in software defined radios (SDRs), I found myself desiring a receive antenna which wouldn't need tuning and preferably have a fairly linear response across a wide frequency range. Since I live on a boat, space is somewhat tight when it comes to antennas so a small physical dimension was high on the requirements list. As for frequency coverage, I would like it to be able to pick up signals in the 300 kHz to 54 MHz range although the range from 300 kHz to 21 MHz is of primary interest.

Tuned antennas were ruled out because of the fairly narrow bandwidth and tuning range most of them have. While tuned antennas are great receive antennas *because* of the limited bandwidth, this is not what I was looking for since an SDR is capable of displaying a fairly wide spectrum and I use that capability often. There are broadband antennas on the market and some, such as the Comet CHA-250 vertical, can even be used for transmit, but they were ruled out because of size. There are also a few short vertical antennas (for instance from Clifton Laboratories and DX Engineering), but I had my sights set on a loop antenna. Some commercial "magnetic" loop receive antennas <sup>1</sup> have been on the market for a while, however the cost ended up exceeding \$500 by the time one of these were landed at my QTH. I decided to look into building my own.

The sizes of the commercial loop antennas seem to be around one metre in diameter so this is probably a good starting point, but some basic investigation was still undertaken. Surprisingly little literature on small broadband loop antennas could be located while a lot can be found on tuned antennas such as "The Loop Book". <sup>2</sup>

The best I found on wideband loop antennas was written by Chavdar Levkov, LZ1AQ. <sup>3</sup> Some immediate conclusions stood out after reading his paper. First of all, as one would expect, the signal output from an antenna is proportional to the area circumscribed by the antenna, but even so, the signals from the bare antenna are quite weak.

Of course, some minimal amount of signal is required to overcome the receiver's own noise and there is also loss in the feed cable that should be considered.

A magnetic loop antenna, as the name implies, picks up the electromagnetic portion of the energy that surrounds the antenna. It is a common belief among Amateurs that magnetic antennas tend to be quieter than say a dipole.

I am not sure this is true, but it was worth a little experimentation. Mounted vertically, such an antenna is directional in the horizontal plane, but picks up signals equally well in all directions in the vertical plane. This means that the antenna is a fair NVIS antenna; i.e., capable of receiving signals ranging from stations that are geographically close (signals are coming in almost vertically from the ionosphere), but it is also fair for receiving distant stations (signals from close to the horizon). This is just what I wanted. Incidentally, it is worth noting that signals from below the antenna will also be received so mounting it close to a noise source in a house will result in disappointing results.

A loop antenna is a balanced antenna and if only the induced current in the antenna is used as opposed to the



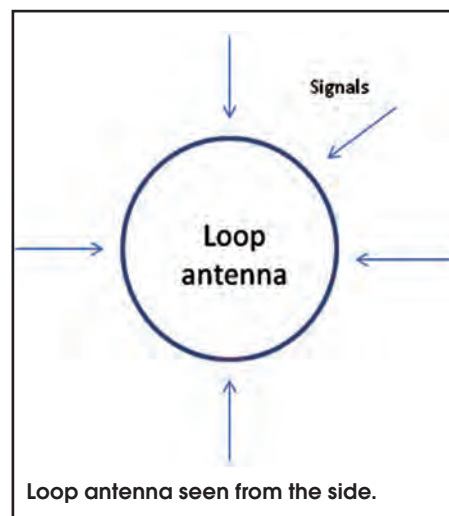
voltage against ground, it is by definition a magnetic antenna. Another way of saying this is that it is better at receiving the H-field than the E-field. This is accomplished by almost shorting the antenna with a low-impedance amplifier. OK, so what kind of current can we expect? The current ( $I$ ) is proportional to the area of the loop ( $A$ ) and inversely proportional to the inductance of the loop ( $L$ ) [ $I=A/L$ ].

Two things are worth observing here:

- 1) The formula does not include the frequency.
- 2) The formula only works if the antenna circumference is less than 1/10 of a wavelength.

The currents induced are very small. LZ1AQ suggests that a loop of 4 millimetre wire and 1 metre in diameter generates 0.75 nA for a 1 microVolt per metre RF field. In a 50 Ohm antenna, this would generate about  $[0.75 \times 50 =] 37.5$  nV or 0.037 microVolt or well below the minimum discernible signal (MDS) of most receivers. Clearly, we need to amplify the signal to make it useable for weaker signals. Enter LZ1AQ and his Active Antenna Amplifier (AAA-1B). <sup>4</sup>

The AAA-1B consists of an assembled amplifier board, an assembled control board, a waterproof box and various support hardware.



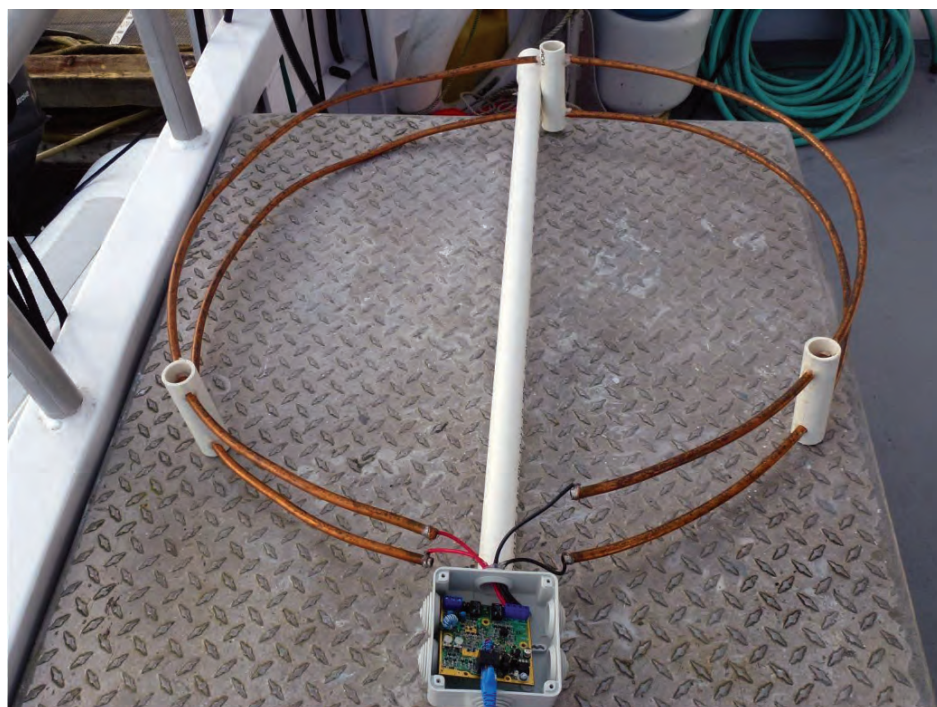


You need to provide the connection cable, the antenna and well-filtered power. The kit supports several different types of antennas such as:

- Single loop antenna
- Dual loop antenna which can be cross-connected by relays in the amplifier
- Short dipole

The kit is well-built and instructions are excellent. (Note: make sure you follow the instructions carefully or you may destroy the unit.) You must supply your own box for the control board or it can be built into other existing gear.

The amplifier can be configured to be either a current amplifier or a voltage amplifier, but the current amplifier is most suitable for a loop. The kit designer made an interesting choice of cable between the amplifier and the control board. A shielded Cat5e network cable is proposed which is cheaper than coax and it works well in my installation. The cable carries signal, power and control signals so some configuration can be performed remotely from the control board. Due to existing wiring, I decided to mount the control box away from my operating position, which I'll get back to. I did first try an unshielded Cat5e cable, which I had on hand, but the noise pickup was significant so I ordered a 50-foot shielded cable with connectors from BestBuy (available online, only). You can also make your own. The kit includes two connectors but you must supply the appropriate crimp tool.



Have you ever stopped to think about the incredibly small HF signals we pull out of the air? The correct signal calibration for S9 is 50uV in 50 Ohm. Receiver sensitivity is often rated in dBm. Here are some examples of S-units and dBm values:

<b>S3</b>	-109 dBm	0.7 uV in 50 Ohms	about 10 fW (femto Watt or a 1/1000 pico Watt)
<b>S6</b>	-91 dBm	6.3 uV in 50 Ohms	about 1 pW
<b>S9</b>	-73 dBm	50 uV in 50 Ohms	about 50 pW
<b>S9+20</b>	-53 dBm	500 uV in 50 Ohms	about 5 nW

So at -121 dBm the S-meter should show S1 and additional sensitivity is wasted for the most part – at least on the lower HF bands.

The S-meters in most commercial rigs are notoriously inaccurate. Witness the many S9+40 dB signal reports you hear on the air. Not many signals are that strong unless you are listening to a local station or have an antenna with a huge gain. The correct spacing between S-units is 6 dB. The problem is that most commercial rigs use closer to 3 dB between S-units. That is how they can show good signal reports and still appear to be able to pick up weak signals.

The S-meter on an SDR tends to be very close to the correct reading and the dBm value is often displayed as well so the SDR can be a very accurate test instrument, but it may seem to give stingy signal reports.

OK, so the more complicated components have been taken care of. Now to the antenna. One of the ways to get more signal out of the antenna is clearly to increase the diameter, but reducing the inductance is another interesting approach. This could be done by using very thick wire. For instance, going from a 4 mm wire to 40 mm tubing yields around an S-unit (6 dB) of signal. However, a 1 m loop made of 40 mm tubing would be a little too heavy for my use. A larger diameter loop was considered, but space and weight was a problem. LZ1AQ suggests an alternative method using two

parallel loops cross-connected. Two loops connected this way have a lower inductance and therefore generate a larger current. LZ1AQ suggests that using two loops of 71 cm in diameter will generate 2.38 nA in a 1 microVolt RF field. That is nearly three times as much as the single loop.

I chose to use 3/8-inch (9.5 mm) copper tubing, which I had on hand. The 75 cm loops are mounted on three small pieces of 1-inch PVC pipe and spaced 8 cm apart as shown in the photo at left. Aluminium tubing or rod could also be used. The antenna is mounted near vertical at the stern of my boat. A brief test with horizontal mounting 10 feet above the water did not yield great results on 80m.

Since I had an existing run of coax cable and pulling additional cables to the station was difficult, I chose to mount the control board outside and install a bias-T so I could run both the power and the signal on the same coax. I then have another bias-T with a relay to switch power to the antenna off when I transmit (the loop is less than 10 feet from my TX antenna) to avoid damaging the amplifier board (see the circuit diagram on the next page).

The amplifier needs between 11.8 and 15.7 Volts, but there is some loss in the cable and the inductor so a 19 Volt wall wart works fine.

### So how does it perform?

I should mention that I mostly operate 80 metres and one of the hopes I had for the antenna was that it would pick up less of my local noise. It turns out that most of my

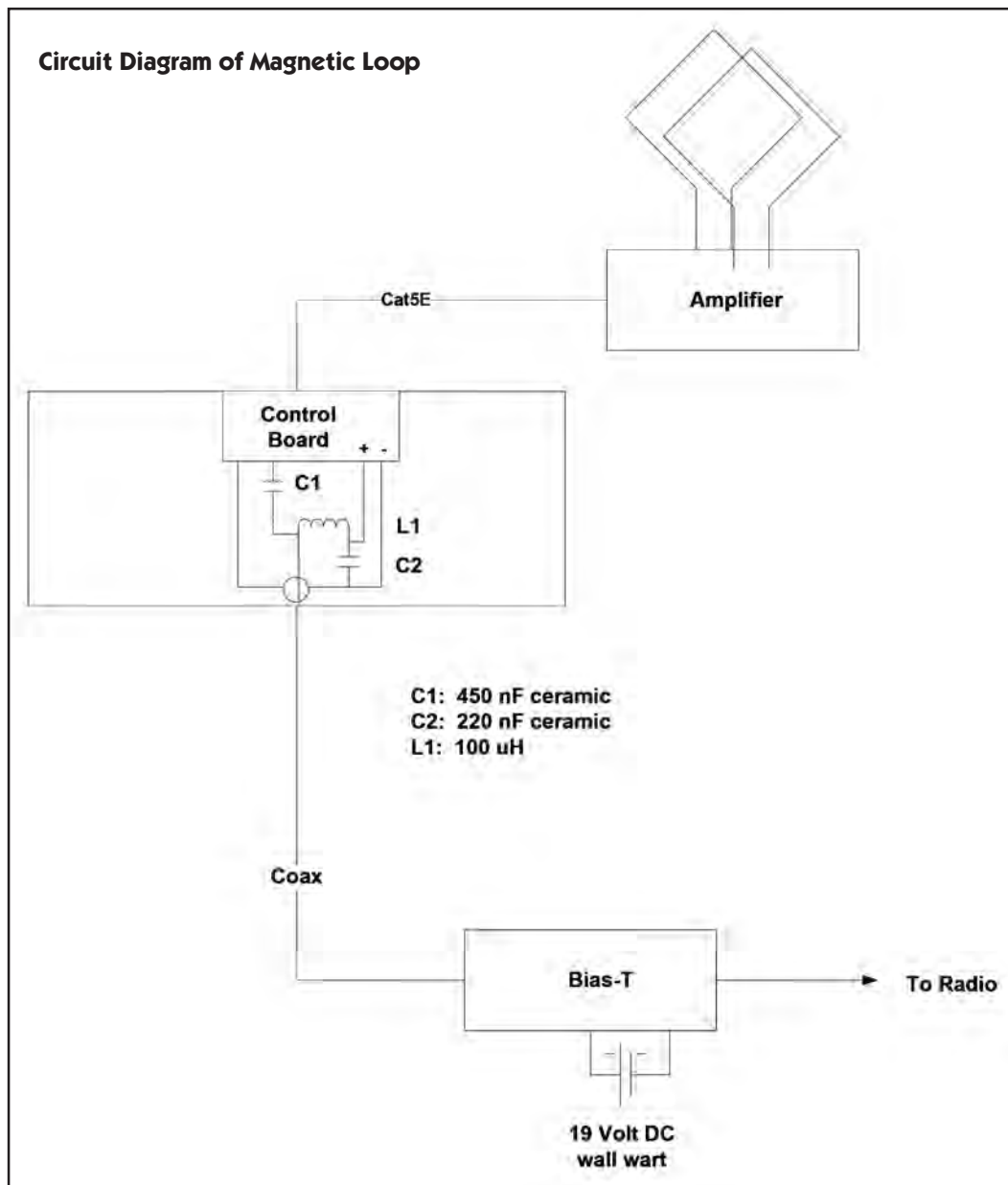
local noise contains a large portion of H-field signals so the effect on the lower bands is not as good as expected. While the noise level is an average 10 dB lower on 80m compared to my transmit antenna (about 50-foot wire sloper with a "screwdriver" tuning coil at the bottom), most signals were also lower by roughly 6 to 12 dB.

However, *some* signals were almost the same level within a couple of dB of my TX antenna and some of the local (groundwave) stations were 15 to 20 dB lower than the TX antenna. This is due to the directivity of the loop and, since the local stations are usually strong, the reduction in signal is unimportant. If mounted clear of any other antennas and obstructions, it can have a very deep null perpendicular to the plane of the antenna. And therein lays the greatest strength of this kind of antenna: it can be used to null out local QRM!

Indeed, while the antenna is not exactly in the open, I do see a difference when I rotate the antenna. We have a daily province-wide 80m net with regular participants from other provinces and from the US which provides a great test environment with stations in all directions and distances. The objective measurements aside, the signals often *sound* cleaner than on my large antenna, especially when those signals are close to the noise.

Due to various noisy electronics in the immediate vicinity, my 80m noise level with the loop antenna is around -97dBm (S5) in a 2.4 kHz bandwidth on a good day. Most signals on the BC Public Service Net are above this level. The main point here is that the antenna gives off plenty of signal for my receiver. Further tests are planned in electrically quiet locations.

On 40m and 20m the performance is nothing less than astounding! The noise level is two S-units lower than my vertical antenna and the signals are mostly the same level as the vertical. That is a 12 dB improvement in Signal/Noise level. That alone made the work worthwhile. The loop often beats my 15m tuned



loop antenna as well. It is even possible to receive stations on 6m, but it does not work as well as my 6m dipole. Distant non-directional beacons (NDBs) in the 300 kHz range are also readable.

Best of all, this is a broadband antenna which does not need tuning when changing frequency. Note that the frequency range of the amplifier includes the AM broadcast band so, consequently, I had to insert a band rejection filter to reduce the signals from numerous strong local AM BC stations which would otherwise overload my radio. Clifton Laboratories sells an excellent filter or you can build your own.

Overall, I am very satisfied with the antenna, but I have ideas for experiments with other configurations. As they say in many scientific papers "further study is required".

**A caveat:** I have described the performance in my environment and the effort was worthwhile. Your experience may be different.

#### Notes:

<sup>1</sup> RF PRO-1B <http://www.pixelsatradio.com> and ALA1530 <http://www.wellbrook.uk.com>

<sup>2</sup> *Small High Efficiency Antennas: The Loop*, Ted Hart, W5QJR, 1989 Franklin-Belle Publishers.

<sup>3</sup> <http://www.lz1aq.signacor.com/docs/wsml/wideband-active-sm-loop-antenna.htm>

<sup>4</sup> <http://www.active-antenna.eu>

<sup>5</sup> <http://www.cliftonlaboratories.com>

*Erik, VE7MDL/VE0MDL, was first licensed in 1963 as OZ5EU. He has worked just about every mode and every band from 1.8 to 1296 MHz and he particularly enjoys various HF digital modes. He currently lives with his wife on a converted commercial fishing vessel which presents interesting antenna challenges.*



# REFLECTIONS OF AN AMATEUR IN THE LATE 1920s

## Ernie Jury, VE3EJJ

I have the privilege and pleasure of the acquaintance of Tom Lumby who is now 102, living alone and possessing all of his faculties. By way of background, Tom was born on a hardscrabble farm in Saskatchewan located on the CNR line near Saskatoon. He got most of his primary schooling in Saskatchewan before moving with his family to the Los Angeles area of California in 1921 where he graduated from high school.

He was always interested in things mechanical and scientific. As he terms it "if there had been computers then I would have been a computer 'nerd' ". He became interested in radio in the late 1920s and applied for an Amateur licence in 1929. He does not recall any other formalities, such as an examination or interview, and he was assigned the call W6AXF.

Tom's rig was a single stage oscillator using a 210 tube in a tuned plate tuned grid circuit. The 210, a power amplifier and oscillator, was operated well beyond its maximum rating of 425 Volts and 18 mA. If the key was held down too long the plate got red. The coarse tuning was by taps on the coils with the capacitors for final frequency adjustment.

For a power supply transformer, Tom approached the local electrical utility company asking for a used transformer that he could rewind. They accommodated him with a dry type transformer that he rewound for an output of about 1 kV. He later realized that he had been given a new unit.

The initial rectifier was a series string of about 35 to 40 electrolytic cells in glass jars with aluminum and lead electrodes. The electrolyte was either ammonium sulphate and alkaline fluorides or sulphuric acid with cobaltous sulphate and ferrous sulphate. When he could afford it Tom got a mercury arc rectifier and eventually acquired a 1 mfd filter capacitor. The transmission line was of the parallel, open wire type that was universally used at that time.

Tom's father, a practical carpenter, built a 30-foot tapered wooden mast for him that was about four inches to the side. This supported one end of his dipoles. Most of his on-air work was done on 40 metres although at certain times of the day he used 20 metres which was considered more experimental. He used his receiver which was calibrated against a nearby Amateur's rig to determine his transmitter frequency.

As Tom recalls his receiver, it was a home-built regenerative type that had reasonable sensitivity and good selectivity. He operated CW only. Tom's circuits, as is the case for many of us, were taken from magazine articles.

The whole station was located in a separate small building (shack) his father built for him. His rig sat on a simple bench.

With this elementary rig, Tom worked all continents except Africa; he could hear Africa but they could not hear him. He had weekly contacts with on-air friends in Australia and New Zealand. He was able to keep contact with the first trans-Pacific flight to Australia part way across the ocean. (He skipped school that day). He also got a brief acknowledgement from the Byrd expedition in Antarctica.

One summer, Tom was engaged with a friend as a goat herder on a Mexican island. He took along a QRP rig and "adopted" the call X1AM. A Mexican official visited the island and there was a great flurry to cover up evidence of the transmitter and its antenna. Fortunately, the official was only interested in hunting on the island. However, Tom's radio communication ability became known to local rum runners who used the island as a staging point to offload to small speedy vessels for the final dash with illegal alcohol to US destinations. Tom was offered \$150 per month (a princely wage at that time) to use his communication ability on their behalf. Wisely, he declined the offer.

With the Economic depression of the early 1930s, Tom and his parents returned to Saskatoon where he found a position within the service department of an automotive dealership. He resumed his Amateur Radio activities but this time was examined by a radio inspector before being assigned a call with "CQ" as the suffix. He found this rather annoying, particularly when calling CQ. During the '30s Tom got married and he ultimately became manager of the service department. He continued his Amateur Radio activities until the outbreak of WWII.

Tom tried to enlist in the Air Force but was rejected because he did not have a university degree. He subsequently joined the army as a training specialist and ultimately rose to a senior position at Army Headquarters in Ottawa. As a result of his training work, Tom was not deployed to Europe until after D-Day.



After the war ended, he joined the British Foreign Office as a Colonel in the occupation force in Germany where he gained much experience in the area of human relations. After returning to Canada onboard *The Aquitania*, during its last voyage before being scrapped, he took a position with the Employee Relations Department of the CNR in Montreal. Tom resumed his Amateur Radio activities with a VE2 call sign until his retirement in 1976. He then became a management consultant, including assignments in the US. He moved to Ottawa in 1984 and regretfully never got back on the air.

He says he owes a good deal to Amateur Radio. It focused his teenage energies and laid the ground for a career he might not have otherwise followed.



## FEEDBACK

### CALL SIGN REQUIREMENTS

I was a bit mystified by the letter from Jim Wyse, VO1CPZ (September-October 2013 TCA) regarding suffixes that should/might be used following his call sign.

I was left to wonder why he thought one was required; because one isn't required of a Canadian ham operating in Canada (see RBR4 Section 9, making note that 9.2 applies only to visiting hams from our southern neighbour).

Perhaps Jim has heard many longer-term hams using such suffixes, which, I believe, was a requirement of yesteryear when Canadian Amateur Radio stations were licensed. Since 2000, no suffix has been required.

Brian Williams, VA3BRW  
Belleville, Ontario, Canada

**Editor's Note:** Brian is correct, the suffix is optional. You can use one if you want to let people know where you are operating from, but it is not a requirement. Thanks for bringing it to our attention Brian.

# PUBLIC SERVICE / ARES

The Holiday Season is over and the New Year has come. Best wishes to all from Vancouver Island.

It has been a busy fall and winter with many ARES groups finishing the year with activities and exercises to put together the training conducted throughout the period.

It is nice to see a wide variety of activities from ARES Training and Exercising to Public Service and Youth Involvement, all of them providing training and experience to everyone involved from one coast to the other.

These activities can only strengthen the operational expertise of the groups involved.

It is important to see the "After Action" comments and now those groups (and all of us) can learn from and build on the things that went well and adapt to those areas that require more work. Well done to all."

*Hew Lines, VA7HU – RAC NTS Coordinator*



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## VICTORIA MARATHON COMMUNICATIONS

*Alan Mallett, VA7AWM*  
*Public Service Coordinator,*  
*Westcoast Amateur Radio Association*  
*Emergency Radio Coordinator,*  
*Victoria Emergency Management Agency*

The Westcoast Amateur Radio Association provides race communications for the Victoria Marathon (a Boston Marathon qualifier), held on Thanksgiving Sunday, and the Times-Colonist 10K Run in April. A roster of 46+ members, municipal emergency program radio groups and area Amateurs provide checkpoint support, lead car reporting, van dispatch for tired runners, lost children coordination, medical aid and emergency calls.

Currently, the Victoria Emergency Management Agency Comms Van V29 is used for the command post. It is well equipped with multiple VHF/UHF ham radios, phones, commercial radios, computers, printers, and space for a three-operator dispatch team. Shifts start as early as 5 am and end at 2:30 pm, which makes for a long and often tiring but exciting day.

Both races are large with registrations of up to 15000. Hundreds of radio calls are logged by the dispatch team. Radio dispatched bike paramedics and St. John first aiders patrol the race, and five teams of volunteer doctors on bikes keep in touch by cellphone.



At the Finish Line, a well-equipped field medical tent is staffed by doctors, nurses, and paramedics.

This is the second year that we have used an off-site medical dispatch centre incorporating BC Ambulance, St. John Ambulance and Marathon Comms co-located at the BCAS regional HQ. This proves very efficient in getting medical assistance and transport for injured and exhausted runners. The open "party line" permits both dispatchers to listen to race comms and deploy their members more effectively and promptly.

We assign a radio team to work at the Kids Zone tent to manage the Lost Children function. During a typical day, you never know how many kids and parents will be separated. The goal is to have a single location where everyone can be reunited. Race Security assists with larger scale missing person reports, and in the end, everyone seems to get found.

The race committee and local emergency services are well aware of the benefit of having a dedicated and proficient Amateur Radio team supporting major racing events. We consider the experience to be an emergency communications training opportunity and I would like to thank all the volunteers for their dedication and tremendous effort.





## CUMBERLAND HEALTH AUTHORITY EMERGENCY BACKUP VHF AMATEUR RADIO TEST

**Submitted by Jim Langille, VE1JBL**

On November 15, members of the WestCumb Amateur Radio Club in Amherst, Nova Scotia participated in a test of Amateur Radio stations located at all hospitals throughout Cumberland County.

With Cumberland Regional Health Care Centre in Amherst acting as Net Control contacts were made with North Cumberland Memorial Hospital in Pugwash, South Cumberland Community Care Centre in Parrsboro, All Saints Hospital in Springhill and Bayview Memorial Health Care Centre in Advocate.

Other contacts during the test included Cumberland Regional JEOC, Red Cross Amherst, Sackville Memorial Hospital and Sussex Health Centre.

Besides a few minor problems with batteries and linking, all radios worked exceptionally well and there were 18 messages passed during the session which lasted 30 minutes. Repeater systems in all three Maritime Provinces (MAVCOM in Nova Scotia and PEI, International Repeater Group in New Brunswick) were linked together during the test.

I would like to thank the following Amateurs who participated in this exercise:

Brad Ross, VE1ZX (Springhill), Lorne Anderson, VE1BXK (Parrsboro), Bob Tuttle, VE1DR (Pugwash Junction), Jim Hannon, VE1AFH (Amherst), Bob Perry, VE1EDP (Amherst), Peter Hebb, VE1SM (Amherst) and Jim Langille, VE1JBL (Amherst).

Operators in New Brunswick included Rick Sullivan, VE9RWS, Jerry Hannah, VE1KW and Terry Craig, VE9TER, all of Sackville; with Scott Hoyt, VE9SDH, in Sussex Corner.

Overseeing New Brunswick operations was Al Thurber, VE1RG, of Keswick Ridge and he provided the following message:

"In partnership with Nova Scotia's Cumberland County hospitals and Nova Scotia EMO there was an opportunity for New Brunswick to partner and test interoperability between the two provinces.

Since the Province of New Brunswick's EMO Amateur Radio system operates a system of 25 VHF repeaters (International Repeater Group), the connectivity to Nova Scotia's MAVCOM network was put to the test.

New Brunswick has all of their 20 emergency room hospitals equipped with Amateur Radio stations. All are equipped to access the IRG network.

In the past many months the IRG's system has undergone many changes to the network's configuration in forming many zones in the province.

This exercise showed the capability of the New Brunswick system with the new configuration.

It appears that some testing should be carried out to be aware of the capability of connecting to each province, whether connecting to NB from NS or conversely from NS to NB.

Overall the test went rather well with Sussex Health Centre (VE9SHC) and the Sackville Memorial Hospital (VE9SMH) participating in the communications check.

Talks are ongoing about having this test every six months.

If your hospital is interested in taking part in this bi-yearly test please contact me at [ve1jbl@eastlink.ca](mailto:ve1jbl@eastlink.ca)."

## AMATEURS IN BATHURST NEW BRUNSWICK SUPPORT THE CIBC RUN FOR THE CURE

**Francis Pitre, VE9FCP**

On Sunday, October 6, Amateur Radio operators in Bathurst, New Brunswick did their part in supporting the 22nd Annual Canadian Breast Cancer Foundation CIBC Run for the Cure.

This fall classic, consisting of a 1K walk and a 5K walk or run, raises funds that allows the Foundation to continue investing in groundbreaking breast cancer research while supporting and advocating for the breast cancer community.

The Canadian Breast Cancer Foundation CIBC Run for the Cure is Canada's largest single day, volunteer-led fundraising event dedicated to raising funds for breast cancer research, education and awareness programs.

The local organizing committee is extremely grateful for the support provided by the Amateur Radio operators providing communications and safety at intersections for the event's participants.

The photo shows the Amateur Radio operators who took part in this year's event in Bathurst: (Front, left) Mitch, VE1MLS and Francis, VE9FCP; (Back, left) Alain, VE9ACL, Sue, VE9MLR, Junior, VE9ZZ, Len, VE9LBN, Moe, VE9MOE, and Gilles, VE9GIL.



For the RAC Store visit:  
[http://www.cafepress.ca/rac\\_radio](http://www.cafepress.ca/rac_radio)

# ONTARIO REPORTS ON ANNUAL RAC SIMULATED EMERGENCY TEST

*Each year in October, the RAC Simulated Emergency Test provides an ideal opportunity to demonstrate the capabilities of Amateur Radio. Community and public service agency officials learn first-hand by taking a role in the SET and by providing an objective evaluation afterwards from their perspective. Here are a few reports on the SET provided by ARES representatives in Ontario. The following reports were provided by Ontario East Section Manager, Michael Hickey, VE3IPC. Please see the Section News on pages 56-63 for additional reports.*

## ONTARIO EAST ARES DISTRICT GROUP

**Submitted by Group Coordinator  
Bob Howard, VE3YX**

The Renfrew County West (RCW)-ARES Group Coordinator, Bob, VE3YX and Assistant GC George, VE3GPD, attended a CEMCs meeting on Monday October 7, in the Township of Killaloe-Hagarty-Richards office in Killaloe, Ontario. The meeting was attended by CEMCs from the surrounding municipalities. We set up a portable 2 metre packet/voice station in the corner of the meeting room to demonstrate communications through repeater VE3UCR on voice and packet with Outpost. Following a very interesting presentation by Mike Nolan, Director of Emergency Services for Renfrew County, CG Bob Howard did an ARES PowerPoint presentation. At the meeting we learned that there was an exercise planned for early morning on October 10 and that we were invited.

The exercise scenario had a tornado pass through Killaloe destroying much of the downtown including the EOC (Town office), Town Fire Hall and OPP station. The alternate EOC was set up in the Round Lake Fire Hall/ Evacuation Centre. Part of the exercise was to see how combining the EOC with the Evacuation Centre would work.

The RCW-ARES group's SET this year was conducted by providing EmComm support and participating in a Nuclear Plan exercise. The photo at left shows an operating position in the Mayor's office at Port Alexander EOC. The desk has a VHF station with Outpost at the ready. On the corner table can be seen a Kenwood TS-570 that is used to pass and receive any needed Winlink messages. The photo at right was provided by GC Bob Howard, VE3YX.



GC Bob, VE3YX, arrived at the fire hall at about 6:45 am and set up a portable packet/voice station in a corner of the fire hall, away from the crammed EOC. The fire hall was very electrically noisy so a long length of COAX allowed a portable antenna to be a good distance from the building. While the antenna was located on the opposite side of the building from the VE3UCR repeater, signals were adequate for voice and packet. Red Cross messages were passed to John, VA3IOI, at the Red Cross in Pembroke, and other messages were passed to Yvonne, VE3RYA, at the home station in Point Alexander. Once again, Outpost shone with a high message rate and read receipts. At the end of the exercise, the CEMC was given the ICS-309 (message summary) form printed from Outpost.

As a result of the meeting and exercise, a Memorandum of Understanding (MOU) between RCW-ARES and Killaloe-Hagarty-Richards is underway.

The following week, on October 17, there was a Municipal EOC (MEOC) exercise of the Laurentian Hills / Deep River Nuclear Emergency Plan. Once again, John, VA3IOI, manned the Red Cross station in Pembroke, but this time he had Debra, VE3EIH, the new Group Coordinator (GC) for Renfrew County East (RCE)-ARES group with him. Assistant GC George, VE3GPD and Yvonne, VE3RYA, operated the VHF packet/voice station at the MEOC in Point Alexander. Tony, VA3HWH and Dan, VE9DAN, operated a packet/voice station from the Emergency Information Centre (EIC) located at the Point Alexander rink shack. Dan did a great job acting as an annoying reporter wanting information on the nature of the nuclear emergency which generated messages from the EIC to the MEOC requiring the Municipal Control Group (MCG) to respond.

Meanwhile, Bob, VE3YX, was trying to send the Declaration of Emergency to the PEOC in Toronto using the HF radio with Winmor/Winlink located at the MEOC. The band conditions were terrible and he could not get a connection to an RMS. Bob took the message home on a memory stick and was able to connect with difficulty to an RMS from the home station with a better antenna. The message was confirmed as received at the PEOC.

The exercise portion was very short, only an hour, however we passed 20 messages using Outpost and of course passed 20 read receipts to and from the MEOC.

## LOYALIST ARES DISTRICT GROUP

**Submitted by Bill Nangle, VE3CLQ**

The Frontenac County EmComm Group held its their annual SET on Tuesday, September 10 which was earlier than the Ontario SET date. The exercise was held during working hours which allowed us to test our weekday response – instead of the normal weekend time frame – and we were impressed that 11 Amateurs took the day off from work to take part, as well as our usual contingent of retired Amateurs.

The main Frontenac County EOC, and three of the five municipal EOCs, were activated for the day. The county brought in representatives from Emergency Management Ontario (EMO), the Red Cross, Hydro One, the Salvation Army, Frontenac Board of Health, the County CEO, Warden and the Council.

The main outcome of this exercise was the fact that the County will no longer accept voice traffic and handwritten messages. They wish to use only RMS or Winlink digital modes.

This exercise was also the unveiling of our new digital network that has been built over the past 12 months. At the moment we have almost 100% coverage of Frontenac County – from Kingston to Plevna – via VE3FRG-7 which is located 10 kilometres north of Kingston on a 260-foot tower. VE3FPN-7 is located on a 100-foot tower at the Sydenham Fire Hall, and our main gateway VE3MNE-10 is located in the west end of Kingston. Coming online in mid-November will be VE3DTG-10 which will be a secondary gateway and will be located in central Kingston. Work is now underway to bring online a further two nodes, one in Plevna and the other in Sharbot Lake. All the nodes and gateways are located on 145.070 SX.



Also helping us out was the new location of our main repeater, VE3FRG. This repeater was recently moved from the John Orr Tower in Kingston, to the same 260-foot tower the VE3FRG-7 node is on. The footprint has changed significantly and we can now use this repeater from Belleville to Brockville, north to Smiths Falls and beyond. So for the first time all of the municipal EOCs located in Frontenac County can hit the main repeater, and most can also hit our secondary repeater as well. VE3FRG is on 146.805- with a 203.5 tone.

We also had a county-wide VHF voice network up and running, as well as a fully deployed HF relay station set up on the high ridge line at Sydenham. The HF station had all band, all mode capability, and was capable of running off of mains or battery power.

I should also point out that our complete digital infrastructure has been built without any funding from outside agencies. It has all come from our pockets.

#### **PRINCE EDWARD COUNTY ARES GROUP:**

*Submitted by Group Coordinator  
Doug Monk, VE3ZDG*

The Prince Edward County ARES Group participated in the Simulated Emergency Test on October 26. It involved a simulated notification to the Emergency Management Ontario ops centre of a municipal declaration of emergency, sent by HF. The message was initiated by County CEMC Scott Manlow on October 22. A two-part RAC Radiogram form was used; the white copy was left with CEMC. A message was sent by Doug, VE3ZDG, at 9:44 am on October 26 through OPN and received by Walter, VA3PRC.

Initiating this message led to a valuable discussion with the County CEMC, the Fire Chief.

The recommended action to be taken is to have another look at IMS213-R:

a) There is no space for the addressee's email address. In the past we have practised passing traffic via 2 metre to the closest station with an Internet connection, for relay by email.

b) There should be a place for the first ARES operator to enter a call sign. This will not necessarily be the station of origin.

c) Placing the reply on the same form will lead to confusion in practice.

d) The form should be a two-part form with self-inking carbon so the addressee or the originator has a copy as well as the station operator. One-part forms need only be used by relay stations. The yellow copy of message delivered to the addressee should have a place for the addressee to initial for receipt.

These comments come from analyzing the results of much practice.

## **LAKEHEAD ARC PARTICIPATES IN JAMBOREE ON-THE-AIR**

*Amethyst DEC Fred Lesnick, VE3FAL*

October proved to be a good month for members of the Lakehead ARC and others in the District. Three members of LARC participated in what was their 15th year with Scouts Canada's Jamboree On-The-Air (JOTA). From October 18 to 20, Carl, VE3DG, Gary, VE3ODE and Fred, VE3FAL, had permission from the Ontario Ministry of Natural Resources to set up for the weekend at Kakabeka Provincial Park. They set up camp and erected some antennas using the pneumatic antenna launcher from the Joplin Amateur Radio Club. This made getting antennas high in the tall trees a breeze. VE3DG set up a station at his campsite with some verticals and a windom and he operated many stations in Europe and South America on 10 metres. The higher bands proved to be full of good activity.

VE3ODE and VE3FAL brought their manpack radios and set up a Yaesu FT-817 in the tent as well. We operated from all stations with the half-dozen or more Scouts taking turns operating through the day. They had fun operating voice and also had a chance to operate digital modes using FLDIGI. I did some CW using my Czech military key and later had a QSO with a station using FLDIGI so that the kids could follow along with the code.

I had another radio on so the group could hear the code and see the words on the screen as they appeared. Many questions were asked and Amateur Radio was explained to the group about why we use it. They are very interested in a course and getting their certificate. Battery power was also the flavour of the weekend to show the group how portable this means of communication is, and that you do not need big antennas and towers to be able to operate.

All in all it was a great weekend, a bit cool but the propane heater under the operating table proved to be a lifesaver with the full moon upon us on that particular weekend. We had some rain and flurries as well but that was not enough to dampen the spirits of the 1st Thunder Scouts BPSA Scouting Group.

Thanks to Scouter Jim and the rest of the crew, the Scouts, and of course to Carl and Gary. I look forward to next year.

### **HELP WANTED:**

#### **LETHBRIDGE, ALBERTA AND AREA: ARES VOLUNTEERS NEEDED**

I would like to welcome Rob McMillan, VE6XMB, from Raymond, Alberta as the new Emergency Coordinator for the ARES Lethbridge Region. Rob will be confirming his AECs for the neighbouring counties that the group will serve.

ARES is currently recruiting volunteers in the Lethbridge and surrounding area. Please contact Rob, VE6XMB, the ARES Lethbridge Region Emergency Coordinator, at 403-752-3772.

*Curtis Bidulock VE6AEW – RAC Section Emergency Coordinator*

#### **ONTARIO EAST: TWO ARES DISTRICT COORDINATORS**

Radio Amateurs with experience in ARES leadership are needed. The Ontario East Section is looking for two ARES District Coordinators.

An ARES District Coordinator is needed for the Loyalist District, as the previous person needed to step down for personal reasons. There is a very strong group in Frontenac County and there exists two other groups that can benefit from District support and leadership.

An ARES District Coordinator is also needed for the Severn District, which is an area that also includes the city of Peterborough where there is a strong ARES group. This District has not had a District Coordinator for several years and much work is needed. More groups are needed there for a stronger District where groups can help each other out in times of EmComm emergencies. Both these Districts are in need of someone to step up and invest some time and effort to provide the needed leadership that brings groups within working together. Establishing a functional Mutual Aid for ARES (*using a working model*) would provide for a stronger District.

As a District Coordinator you will receive my full support and ARES guidance. I will gladly help you work your District. Interested folks with ARES leadership experience are asked to contact Ontario East SM Michael Hickey, VE3IPC at VE3IPC@rac.ca or call 613-679-4472.

*Michael Hickey, VE3IPC – RAC Ontario East Section Manager*

## WINNIPEG ARES PROVIDES SUPPORT FOR SANTA CLAUSE

*Submitted by AEC Glen Napady, VE4GWN*

On Saturday October 26, Winnipeg ARES EC Jeff Dovyak, VE4MBQ and AEC Glen Napady, VE4GWN, had a meeting with Ron Mark, Santa's Chief Elf in Winnipeg and the Executive Director of the Santa Claus Parade in Winnipeg. It seems that Santa had some concerns for the safety of spectators for his Winnipeg Parade. The theme was to be "No Feet on the Street".



Ron had made arrangements for an extra Safety and Security team. ARES was asked to provide communications for this newly formed team. Net control would also be stationed within the communication centre. This parade had never used a communication centre in the past.

Jeff was out of town on a business trip so I took on this task. After a few meetings and plenty of emails, Jeff helped me assemble a team of 26 ARES members and affiliates. We covered 16 locations along the parade route (Blocks A-Q with N&O being one block), two net control operators, six out of eight golf carts patrolling the route and a person co-located with Winnipeg Police & Fire Paramedic services. I was assigned to shadow the Parade Safety/Security Manager.

Needless to say the Grinch tried to put a wrench in my plans. On the Friday before the parade, I received an email informing me that the repeater I was planning to use had developed an issue. The Grinch was unaware that I had a backup plan!

The parade was held on a warm evening (for Winnipeg in November) and it started to snow soon after the event. The estimated 40-50 thousand spectators were well behaved and stayed in the safe areas off the streets.

As this was the first adventure with the parade, several lessons were learned by both our side and the parade committee.

At the ARES meeting following the Parade, Ron thanked WARES members and associates who provided volunteer radio communications during the parade.

## OPÉRATION CITROUILLE / GOBLIN PATROL

*Saint-Eustache, Québec*



Comme par les années passées, le Réseau de Protection Public (RPP) participait, le 31 octobre dernier, à l'Opération Citrouille à Saint-Eustache. Les radioamateurs, tout comme les bénévoles de la ville (Travaux publics, Mesures d'urgence, pompiers), ont patrouillé les différents secteurs de la ville une bonne partie de la soirée afin de s'assurer que cette soirée d'Halloween se déroule sans problème. Tous les bénévoles sont supervisés par Normand Brulotte (service de police).

Les radioamateurs présents étaient : Yann (VE2YYH), Yanick (VE2VEZ), Luc (VA2TGO), Normand (VE2NHK), Carole (VA2NDJ), Elisabeth (VA2ZUT), Joël (VE2JBD), Jean-Pierre (VA2JPY), Pierre (VE2HS), sans oublier Pierre-Alain (VA2GPA), qui patrouillait les rues de la ville avec son ambulance SPL. Le RPP remercie chacun d'entre eux pour leur implication dans cette activité communautaire très sympathique.

Tout radioamateur qui souhaiterait s'impliquer dans nos activités est bienvenu (notre courriel : [admin@va2rpp.org](mailto:admin@va2rpp.org)).

### Goblin Patrol in St-Eustache

As in previous years, the VA2RPP group participated in Goblin Patrol in Saint-Eustache on October 31. Amateurs, just like municipal volunteers (municipal works, emergency measures and firefighters) patrolled different city sectors a good part of the evening to make sure that Halloween goes without any problems. All volunteers were under the supervision of Normand Brulotte (Police service).

Amateurs who were present were: Yann, VE2YYH, Yanick, VE2VEZ, Luc, VA2TGO, Normand, VE2NHK, Carole, VA2NDJ, Elisabeth, VA2ZUT, Joël, VE2JBD, Jean-Pierre, VA2JPY, Pierre, VE2HS, and also Pierre-Alain, VA2GPA, who patrolled the streets with his ambulance. The VA2RPP group thanks everyone for their participation in this event.

At the end of the event all volunteers return to headquarters for a debriefing and to eat some pizza.

Any Amateurs who would like to take part in any of these events are invited to send an email to [admin@va2rpp.org](mailto:admin@va2rpp.org).

— Quebec SEC Normand Pitre, VE2NHK

He explained that our group was very helpful in leading to the success of the parade, especially their "No Feet in the Street" campaign. With Dick, VE4HK and Richard, VE4KAZ, at the Communications Centre and Net Control, he stated that we provided a level of professionalism never before seen working with the parade during his tenure.

We arrived at 1 pm and departed at 7 pm. Twenty-six Amateurs providing six hours of service = 156 hours of volunteer service (not counting the meetings, testing and hours of emails).

I would like to thank VA4s: PNO, AJG, RWT and MAC; and VE4s: KAZ, HK, JDH, JAH, PH, STS, AJO, DWG, CHT, MWH, SIG, TRO, EIH, HAZ, KEH, YYL, GMB, SCH, CLK, RST, CDM and GWN.

While Jim, VE4SIG, was doing a parade assignment he was still doing his Public Information Officer job too and he posted on Twitter a photo taken by Don Gerrard, VE4DWG, showing Ryan, VA4MAC and John, VE4JAH, just before the start of the parade (see the photo in the left column).





**Bob Nash, VE3KZ**  
 5260 14th Sideroad, RR6  
 Milton, ON L9T 2Y1  
 Tel. 905-878-7382  
 Email: ve3kz@rac.ca

## QSO Party links:

### BCQP page:

<http://www.orcadxcc.org/bcqp.html>

### Trading Qs:

[http://www.orcadxcc.org/content/pdf/2014\\_hints\\_for\\_bc\\_stations.pdf](http://www.orcadxcc.org/content/pdf/2014_hints_for_bc_stations.pdf)

### Analyses of results:

[http://orcadxcc.org/bcqp\\_results.html](http://orcadxcc.org/bcqp_results.html)

### Helpful hints:

[http://www.orcadxcc.org/content/pdf/2014\\_hints\\_for\\_bc\\_stations.pdf](http://www.orcadxcc.org/content/pdf/2014_hints_for_bc_stations.pdf)

### Certificates and plaques:

[http://orcadxcc.org/bcqp\\_awards.html](http://orcadxcc.org/bcqp_awards.html)

## Sports Page info:

The contest results provided in this column are courtesy of the Maritime Contest Club team:

Gary Bartlett, VE1RGB  
 Scott Nichols, VE1OP

For more contest information check out these sites:

<http://www.hornucopia.com/contestcal/weeklycont.html>

<http://www.contesting.com>

<http://www.sk3bg.se/contest/>

<http://www.arrl.org/contests/calendar.html>

<http://www.arrl.org/contests/rate-sheet/about.html>

<http://www.cq-amateur-radio.com/awards.html>

The "Contest Calendar" at the end of this column is presented as a guide only.

RAC and TCA do not necessarily endorse or support any of the contests or the accuracy of the information.

Bands: The 30, 17 and 12m bands are never used in any contest.

# THE SPORTS PAGE

## — THE CANADIAN CONTEST SCENE

*I am pleased to once again turn over this column to Rebecca Kimoto, VA7BEC. Much of what she has to say can be applied to other QSO Parties. – 73, Bob, VE3KZ*

## QSO PARTIES: PART 2

Rebecca Kimoto, VA7BEC

In "QSO Parties: An Insider's Perspective", which appeared in "The Sports Page" in the January-February 2012 TCA, I wrote about QSO parties in general from my behind-the-scenes involvement in the BC QSO Party. In the two years since BCQP came under the Orca DX and Contest Club banner, my involvement has expanded from simple administrative support to overall coordination. As the contact person, I field all sorts of questions and comments, from the general to the specific, including queries about logging software, scoring, awards and strategies. This has given me new insight into QSO parties.

There's so much to say about QSO parties. But I have limited space. So for Part 2, I'd like to highlight BCQP's progress and share some ideas that could be helpful in planning strategies. The content can easily be adapted to any QSO Party.

## RISING PROFILE

How is progress measured? a) Greater awareness? b) More logs submitted? c) Higher Q counts? d) More VE7/VA7s on the air? e) More districts activated? f) Positive comments from participants? Answer: Yes. (All of the above.)

BCQP has acquired a much higher profile in the last couple of years. There's no single reason for this, but rather a combination of complementary forms of support on and off the air that put BCQP in a spotlight. This is an essential starting point for sustained success and a key factor in the snowball effect that all QSO parties seek to achieve.

For BC operators, greater event awareness spurs interest, which fuels participation among VE7s/VA7s, which attracts attention inside as well as outside the province, which keeps the bands buzzing, which encourages more operators to get on the air and stay in the chair, which generates more opportunities for Qs and mults and bigger scores, which makes time spent at the radio thoroughly enjoyable, which creates good memories, which prompts participants to mark the next BCQP on their calendars, which ... You get the idea, right?

BCQP has also become more widely known among non-BC stations, which facilitates casual Qs – that is, QSOs with operators who aren't really participating in BCQP but who hear a caller while tuning through the bands – perhaps looking for operators in a different same-day event – and are happy to give out a point.



If there are enough BC stations calling CQ, those casual contesters may make more Qs, which keeps activity and interest levels up and the snowball rolling. It's also easier to trade Qs, if applicable, with operators in the host states of same-day QSO parties when coinciding events are reciprocally recognized (see the link in the left column for more information on trading Qs).

Operators have many reasons for participating: hone operating skills; try out a new mode; pass on knowledge to others; enjoy the camaraderie of a team effort; support a home-grown contest; beat last year's score; capture a unique, photo-based certificate or maybe one of the new plaques; test out equipment and/or software; or simply, to meet up with some good people.

Logs are a tangible indicator of participation. However, due to the casual nature of QSO parties and the fact that logs are not a requirement of participation, the number of logs submitted may not accurately reflect on-air activity. This has been the case for BCQP, but the content of submitted logs provides some interesting clues about participation. Detailed analyses of results in 2012 and in 2013 are available on the Orca DXCC website's BCQP page (see the link in the left column).

As an aside, I think some operators feel that a log of less than 50 Qs is somehow not worthy of submitting. Au contraire! In a QSO Party, even a couple of Qs is commendable. It all depends on your perspective.

A particular score might be a delightful surprise to one person and a terrible disappointment to another, depending on the criteria for evaluation. It's important to look beyond the score. The variables that influence individual results are diverse, from band conditions and propagation to operator-specific issues such as work, health and family obligations that limit time in the chair, as well as station setup and operating expertise.

## EVERYONE'S INVITED

A QSO Party is not limited to participation from within the host province or state. That said, stations in the host province or state are absolutely vital because the party just doesn't happen without them.

Stations in BC can work anyone anywhere, and Q potential is HUGE because operators can take advantage of coinciding on-air activity. BC stations: just call CQ and see what happens. Offer to trade a Q and you may well have a pileup!

Not everyone hearing a BC station's CQ will realize that the CQ is an invitation to the world. Some operators outside BC hesitate to respond because they think participation is limited to stations in BC. If BC operators add something like "anyone anywhere" to the CQ, others will know that they are welcome to respond.

It's tough for stations outside BC to build big logs. I think a reasonable target is 10. To exceed 20 is a major accomplishment. Even getting 20 Qs might require many hours at the radio. I have been in this situation myself, in the Ontario QSO Party and the Maritime QSO Party. And like many stations outside BC who took part in BCQP, when I was the "outsider", I participated in several same-day contests to keep busy.

## COINCIDING EVENTS: CHALLENGES

A number of CW operators in BCQP conveyed to me that they had to call it quits when NA Sprint started. NA Sprint creates a whirlwind of activity that takes over the associated frequencies, and the disparity in exchange data, the QSY requirement and the fast pace make CQing for BCQP contacts extremely tough, if not impossible, even for seasoned contesters. That said, NA Sprint occurs in the last four hours of BCQP so anyone who wants to focus on CW in BCQP could maximize the eight hours of the BCQP that do not overlap with the NA Sprint to build a log, and either stop when NA Sprint

starts or move over to SSB for the last four hours and submit a mixed log. There may be a way to participate in both contests but at the moment such a strategy eludes me.

Some RTTY operators told me that the XE RTTY Contest caused some frustration. A strategy there could be to concentrate efforts into the two hours before XE RTTY starts and/or prepare macros to deal with non-BCQP Qs once that contest gets going.

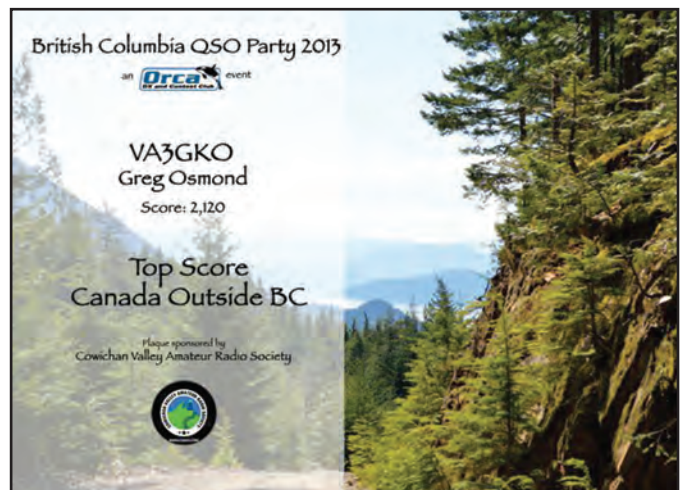
Despite the challenges for CW and RTTY operators, there was more CW and RTTY activity in BCQP 2013 than ever before. Perhaps this was because the other QSO Parties that coincide with BCQP on the first weekend of February also have CW and digital categories, and participants face the same challenges and are equally eager for Qs.

## COINCIDING EVENTS: OPPORTUNITIES

There are three state-side QSO Parties that coincide with BCQP – Minnesota, Vermont and Delaware – as well as FYBO Field Day and 10-10 Winter SSB. This presents huge Q potential to BC stations because operators can trade Qs with operators in respective host states. For 10-10 Winter, any BCQP participant with a 10-10 number can play in both contests, and anyone without a 10-10 number can still trade a Q if the other operator has a number.

Trading Qs isn't possible between stations in non-host locations. For example, a VE3 in the BCQP can't trade a Q with a station in the MNQP because, in BCQP, participants outside BC cannot work other stations outside BC for points. However, the VE3 could dabble in several same-day/weekend events, creating a multi-party/event log that is sorted later into an appropriate format for submission to the respective QSO Party sponsors.

**BC stations:** if you find you're making a lot of trades, you can keep a multi-party log and then sort and submit an entry to the respective contest organizer. N1MM has a note function that is useful for this. Other logging programs have setups for multi-party fun as well. In addition, helpful materials to have on hand during BCQP have been uploaded to the BCQP page of the Orca DXCC site: a convenient one-page multi-party logsheet designed primarily for BC operators – it can be adapted to your own party plan – as well as a schedule of coinciding events and associated



exchange data, and also some helpful operating hints (see the link in the left column of the previous page for some helpful hints).

## LOGGING SOFTWARE, PAPER LOGS

BCQP is fully supported by N1MM and CQ/X GPS-enabled software.

But don't let logging software – or lack of it – discourage you from participating. The objective of BCQP is to get operators on the air so use whatever program you are comfortable with. If BCQP is not fully supported by the program you use, your score may not be accurate, in so far as correctly counting multipliers and bonus points and maybe even QSO points. For an accurate score, you'd need to check and recalculate your log manually after the contest. However, the log-checking team confirms all scores, anyway, so just make sure the Q data follows the required format and we'll take care of the scoring.

And while electronic logs are preferred, paper logs are also accepted (unless you've got more than 100 Qs, then electronic logs are preferred).

## A WHALE OF A GOOD TIME

BCQP 2014 is just around the corner on the first Saturday of February. Mark your calendars: 1600z February 1 to 0400z February 2. The objective remains the same: Stations in BC contact anyone anywhere, and stations outside BC contact as many VE7/VA7s as possible during the 12-hour event.

Rules, tools, helpful hints, in-depth event analysis/reports and scores from past years, examples of the lovely photo-based certificates and plaques – are all available for viewing from links on the BCQP page of the Orca DXCC website at <http://www.ordadxc.org/bcqp.html> and [http://ordadxc.org/bcqp\\_awards.html](http://ordadxc.org/bcqp_awards.html)

I look forward to hearing you on the air.

Rebecca Kimoto, VA7BEC



**MINNESOTA QSO PARTY 2013**

Call	QSO	Mult	Score	Category
VE5KS	83	40	6,640	SOLP
VE2AWR	80	41	6,560	SOLP
VE2CVR	42	25	2,100	MULTI
VE9ML	32	28	1,792	SOPH
VE7JH	34	22	1,496	SOLP
VA3GKO	22	17	748	SOPH
VE9AA	22	16	704	SOLP
VE1OP	18	14	504	SOLP
VA2SG	15	14	420	SOLP
VA7ODX	16	11	352	SOPH
VE3PYJ	13	11	286	SOPH
VE5ZC	6	6	72	SOHP

**ARRL RTTY ROUNDUP 2013**

Call	QSO	Mult	Score	Class	Power
VE7CC	2,243	122	271,816	S	B
VA2UP	1,619	125	201,125	S	A
VE5MX	1,424	122	172,874	M	B
VE4EAR	1,481	109	159,467	S	B
VE3KI	1,111	113	124,978	S	B
VE6AO	1,303	98	124,754	M	B
VA5LF	1,185	104	122,720	M	B
VY2LI	1,131	107	120,161	S	B
VA7KO	1,091	93	99,510	S	A
VE3FJB	903	112	99,232	M	B
VA7ST	1,002	98	97,412	S	A
VE3RZ	773	123	94,587	M	B
VE2FK	892	99	87,813	M	B
VE2EBK	847	104	86,424	S	A
VA3PC	668	117	77,922	M	B
VA7AM	829	87	71,079	S	A
VE6BMX	702	92	64,124	S	B
VE2SG	627	100	62,200	M	B
VE9AA	530	112	58,464	S	A
VE3FH	576	100	57,500	S	A
VE7IO	689	78	53,352	M	B
VE3CX	496	104	51,272	S	B
VE1OP	514	97	49,567	S	A
VE7BSM	564	88	48,752	M	A
VE3IAE	544	90	48,510	S	A
VE6SQ	593	78	45,396	S	A
VA3SB	477	95	43,795	S	B
VE3KAO	454	95	42,845	S	A
VE3MGY	552	73	39,201	M	A
VE3EJ	344	109	37,496	M	B
VE3JI	449	84	37,464	S	A
VE9HF	397	86	33,884	S	A
VE3AJ	340	80	26,720	S	A
VE3HG	338	79	26,623	S	A
VE3XAT	324	66	21,054	M	B
VE3RCN	267	71	18,815	S	A
VE1ZD	280	69	18,561	S	A
VE6KAD	335	55	18,150	S	A
VE7JMN	245	67	16,147	M	A
VA3FN	244	66	15,840	S	A
VE6AMI	231	69	15,594	S	A
VE5KS	198	78	15,210	S	A
VE7CF	235	59	13,806	S	B
VE3FJ	218	60	12,660	S	A
VA3VF	201	64	12,608	S	A
VE7AX	155	62	9,486	M	B
FG1PP	151	64	9,024	M	A
VE2LX	142	50	6,450	S	A
VA2EW	131	46	5,980	M	B
VA7MM	116	50	5,700	S	A
VE3EY	132	42	5,418	S	A
VA6MM	119	45	4,590	S	B
VE2KOT	99	41	4,059	S	A
VE5SF	96	42	4,032	S	A
VA7HZ	99	41	3,936	S	A
VA7XB	91	43	3,655	M	A
VE7BGP	68	27	1,674	S	A
VE2QV	58	27	1,539	S	A
VE7GM	29	17	493	S	A

**CQ WW RTTY WPX CONTEST 2013**

Call	QSO	PFX	Score	Class
VE7SV	3232	832	8,491,392	M-TWO
VE7ACN	2898	817	7,431,432	M-TWO
VA2UP	2079	770	5,558,630	SO LP ALL
N2WQ/VE3	1719	689	4,315,207	SO HP ALL
VE3FJB	1676	670	3,976,450	M-ONE HP
VA2AM	1562	656	3,813,328	SO HP ALL
VE5MX	1607	586	2,535,036	SO HP ALL
VE4EAR	1420	570	2,187,090	SO LP ALL
VY2LI	1205	638	1,964,402	SO HP 20M (T)
VE3KI	1103	504	1,885,968	SO HP ALL
VE2FK	1114	502	1,787,622	SO HP ALL
VA7ST	1021	457	1,236,642	SO LP ALL
VE7IO	1132	382	1,105,890	SO HP ALL
VE3XAT	754	389	915,706	SO LP ALL
VE3FH	738	353	825,667	SO LP ALL
VE2EBK	625	350	668,500	SO LP ALL (T)
VA7AAA	744	339	601,725	SO HP 15M
VE6BMX	601	337	512,240	SO HP ALL (T)
VE9HF	498	309	505,215	SO HP ALL
VY2MGY/3	592	247	477,945	SO LP ALL (T)
VE5KS	584	321	472,833	SO LP ALL (T)
VE6SQ	648	289	460,377	SO LP ALL (T)
VE7BSM	622	273	424,242	SO LP ALL
VE7JMN	574	277	418,270	SO LP ALL
VE2AXO	446	268	387,260	SO LP ALL
VE3AJ	468	253	381,524	SO LP ALL
VE3RCN	436	273	361,725	SO LP ALL (T)
VA7BEC	534	268	359,656	SO LP ALL
VE3TW	457	268	335,804	SO LP ALL
VE2EZD	412	226	328,152	SO HP ALL
VE3IAE	429	303	313,605	SO LP 20M (T)
VE2LX	403	249	285,852	SO LP ALL
VA3PC	350	276	272,136	SO HP ALL
VE7KW	429	226	254,250	SO LP ALL (T)
VA7XB	410	246	235,914	M-ONE LP
VE6KAD	399	206	217,742	SO LP ALL
VE6AO	428	200	191,600	SO HP ALL
VE2FXL	295	180	177,840	SO HP ALL (T)
VE2ESU	284	187	157,080	SO LP ALL
VE4TTH	347	196	156,212	Checklog
VE6AMI	263	191	150,699	SO LP ALL (T)
VE6AX	311	187	148,665	SO LP ALL
VE3KAO	255	190	147,630	SO LP ALL
VE9AA	250	213	136,320	SO LP 15M
VA2WA	210	161	128,961	SO LP ALL
VA3MJR	210	172	122,808	SO LP ALL (T)
VE7YU	264	164	119,228	SO LP ALL
VE1OP	247	189	107,730	SO LP 15M (T)
VA3VF	233	159	99,216	SO QRP ALL
VE7SQ	218	151	83,956	SO HP ALL
VE7HBS	281	146	81,468	SO HP ALL
VA7AM	222	156	75,660	SO LP ALL
VE3FJ	179	147	65,268	SO LP 15M
VA7FC	202	124	54,436	Checklog
VE2QV	155	121	52,877	Checklog
VE7AX	146	120	48,480	SO HP ALL
VE3IRR	148	117	48,321	SO LP ALL (R)
VA5LF	178	117	41,067	SO HP 15M
VE2SG	143	107	40,767	SO HP ALL
VE9BWK	134	108	38,448	SO LP ALL
VA6MM	160	120	37,800	SO HP ALL
VA7MM	117	90	35,910	SO LP ALL
VE3TES	136	96	34,656	SO LP ALL (R)
VE4YU	122	102	31,008	SO LP ALL
VE7IN	117	96	30,528	SO LP ALL
VA3FN	115	93	30,504	SO LP ALL
VA7HZ	119	98	30,282	SO LP ALL
VE3CV	99	98	22,834	SO LP ALL
VE7FCO	99	82	17,548	SO LP ALL (T)
VE7GM	66	54	8,964	SO LP ALL
VE6RRD	53	47	7,144	SO HP ALL
VE2NMB	55	50	6,750	SO LP ALL (R)
VE3VID	38	37	3,589	SO LP ALL
VE2KOT	20	18	810	SO QRP ALL

## ARRL INTERNATIONAL DX CONTEST CW 2013

Call	QSO	Mult	Score	Class	Power
VE3JM	5541	583	9,612,504	M2X	
VY2TT (K6LA, op)	4630	491	6,722,772	S	C
VB3E (VE3AT, op)	3417	460	4,693,380	S	C
VE3YAA	3107	460	4,197,960	M2X	
VA2WA (VA2WDQ, op)	2117	462	2,910,600	SAH	C
VE7JH	2102	417	2,600,829	SAH	C
VE9AA	2106	388	2,425,776	S	C
VE3CR (VA3DF, op)	1662	475	2,346,975	SAH	C
VE3RZ	1795	428	2,294,508	SAH	C
VE3CX	1480	460	2,028,600	SAH	C
VE3UTT	1595	416	1,968,096	SAH	C
VE9ML	1468	427	1,862,574	MSL	B
VE9HF	1591	374	1,775,004	SAH	C
VE5MX	1158	366	1,263,798	SAH	C
VE1RGB	1066	367	1,153,848	S	B
VA3DX	1069	352	1,107,744	SAH	C
VE3XAT	966	367	1,045,950	SAH	C
VA3EC	1107	300	985,500	SAL	B
VA7KO	1019	306	904,230	SAH	C
VA3SB	893	302	790,938	S	A
VE3BR	777	342	786,942	SAH	C
VE2FK	819	286	697,554	SAH	C
VE6TN	805	284	678,192	SAL	B
VE3GFN	794	277	650,673	S	B
VE4VT	659	325	634,725	SAH	C
VE6EX	904	235	627,450	S	B
VE3IAE	807	261	624,051	SAL	B
VE3TW	690	288	588,384	S	B
VA2AM	590	344	586,176	SAH	C
VE3FH	686	277	569,235	S	B
VE5ZX	729	242	511,830	SAL	B
VA7ST	737	224	487,872	S	B
VA3ATT	679	243	479,682	S	B
VE2AWR	652	240	465,120	S	B
VE1ZJ	697	227	463,080	S	C
VE2EZD	608	250	453,750	SAH	C
VA7DZ	703	221	450,177	MSL	B
VA2EU	550	277	437,937	S	B
VE1ZA	504	283	426,198	SAL	B
VE7XF	617	216	394,632	S	C
VE7CV	636	204	381,888	S	B
N2WQ/VE3	1049	115	358,455	S	
VE2EBK	405	265	313,230	S	B
VA3AR	479	206	287,988	S	C
VE3TA	360	267	285,156	SAH	C
VE1RSM	457	214	282,480	S	B
VE3OM	446	200	262,800	S	B
VE6LB	383	220	248,820	SAH	C
VE4YU	391	199	231,636	S	B
VE1OP	498	152	226,176	SAH	C
VE7IO	426	176	220,176	MSH	C
VE1JBC	490	151	217,893	S	C
VA7MG	450	165	213,345	S	B
VE7KW	437	159	200,340	S	B
VE2LX	416	176	199,584	S	B
VE5KS	396	169	193,167	SAL	B
VE6WQ	653	93	179,118	S	
VE2BWL	351	170	176,970	SAL	B
VE3HG	386	144	160,272	S	A
VE7CA	405	130	156,000	SAL	B
VE6SF	313	140	131,460	S	B
VE9OA	324	124	112,344	S	B
VY2OX	402	91	108,927	S	
VE2SG	219	170	108,120	SAH	C
VE5SF	285	126	102,816	S	B
VE3KZ	399	87	102,573	S	
VA3FN	222	137	90,420	S	B
VE5VA	227	121	81,312	S	A
VE3TG	342	78	78,390	S	
VE3JAQ	220	119	75,684	SAL	B
VA2FDT	205	126	75,222	S	A
VE7AX	201	125	72,750	SAH	C
VO1GO	179	126	66,150	S	B
VE3RCN	187	105	57,960	S	B
VA2SG	202	88	52,008	S	A
VE3OSZ	246	67	49,446	S	
VE1AYY	229	70	48,090	S	B
VE6SQ	178	102	48,042	SAL	B
VE3FJ	223	72	46,872	S	
KD2HE/VE3	146	106	44,202	SAL	B

VE3FU	158	94	43,992	S	C
VE6AX	157	91	42,315	SAL	B
VA2EW	225	60	40,320	SAH	C
VE3WZ	132	95	37,050	S	A
VO1TA	154	77	34,419	S	B
VE3EDX	142	89	33,375	S	B
VA2BBW	119	95	33,345	S	A
VE6BMX	181	56	29,736	S	
VE2KOT	121	77	27,951	S	A
VE7MR	141	69	27,738	S	
VE6KK	131	62	22,320	S	B
VA3KA	130	56	21,672	SAH	C
VA5LF	99	67	19,698	S	C
VE3VSM	114	53	17,967	S	
VY2LI	99	59	17,346	S	B
VE3JI	89	66	17,028	S	B
VE5UO	88	61	15,555	SAL	B
VE7DZO	104	48	13,968	S	B
VE2QV	77	59	13,275	S	B
VE2JR	78	64	13,056	S	B
VE7GM	103	40	12,240	S	B
VE7BGP	86	49	11,760	S	B
VE3WDM	73	56	11,592	S	A
VE3NR	65	38	7,410	S	
VE7NI	80	29	6,786	S	
VE3KI	53	34	5,406	SAH	C
VA2ES (VE2AXO, op)	49	37	5,217	S	B
VO1HP	59	27	4,698	SAH	C
VE3CV	44	31	3,999	S	
VA3RJ	37	29	3,219	S	
VA3WR	34	30	2,970	S	A
VE3DQN	26	26	2,028	S	A
VE5GC	37	18	1,782	S	
VE3EIB	25	20	1,320	S	B
VE9BWK	21	21	1,260	S	B
VE3CUI	18	16	816	S	
VE7ETS	1	1	3	S	

## BRITISH COLUMBIA QSO PARTY 2013

Call	QSO	Mult	Score	Category
VA7ODX	801	346	794,416	MOHP - MIXED
VE7JR	783	199	311,674	MOHP - SSB
VE7JT	721	186	268,272	SOHP - SSB
VE7BC	539	192	217,384	SOLP - MIXED
VE7WJ	407	193	157,102	SOLP - SSB
VE7CV	315	194	152,972	SOLP - MIXED
VA7KO	220	129	110,802	SOHP - MIXED
VA7XB	177	100	35,440	MOLP - SSB
VE7IO	112	79	31,166	SOHP - MIXED
VE7JH	128	83	28,280	SOLP - MIXED
VE7VZ	122	68	16,592	SOHP - SSB
VE7DB	103	58	15,196	MOLP - MIXED
VA7GEM	92	38	13,984	SOLP - DIGI
VE7YL	54	46	9,976	SOLP - CW
VA7AQD	74	51	8,792	SOLP - MIXED
VE7NH	63	31	7,812	SOLP - DIGI
VE7RCE	67	45	6,070	MOLP - SSB
VE7WWW	53	43	4,618	SOLP - SSB
VE7BQO	41	38	4,544	SO QRP MIXED
VE7TK	55	37	4,352	SOHP - MIXED
VA7FC	42	29	2,436	SOHP - SSB
VA3GKO	34	30	2,120	SOLP - SSB
VE7GM	47	22	2,088	SOLP - SSB
VA7GAP	30	28	1,720	SOLP - SSB
VA7BBG	31	26	1,652	SOLP - SSB
VA7ST	20	15	1,200	SOLP - CW
VE7NWZ	26	23	1,196	MOLP - SSB
VE7CGE	29	20	1,160	SOLP - SSB
VA7YJJ	17	16	544	SOLP - SSB
VE3XBL	14	13	384	SOLP - SSB
VE9CRM	13	13	378	MOLP - MIXED
VE5KS	8	7	174	SOLP - MIXED
VE7JMN	8	10	160	SOHP - SSB
VE2AWR	5	5	140	SOLP - CW
VA7GL	5	6	80	SOLP - SSB
VE5ZC	5	4	60	SOHP - SSB
VY1RM	4	4	52	SOHP - SSB
VE9AA	3	3	50	SOLP - MIXED
VE9ML	3	3	38	SOLP - SSB
VA3RKM	2	2	36	SOQRP - CW
VE1OP	2	2	16	SOLP - CW
VE7IN	2	3	12	SOLP - SSB



# NORTH AMERICAN QSO PARTY, SSB JAN 2013

Call	QSO	Mult	Score
VE3CX	808	178	143,824
VE5ZX	848	140	118,720
VE6EX	742	157	116,494
VE5MX	805	142	114,310
VA7AM	769	148	113,812
VE6BMX	679	152	103,208
VA7ST	630	153	96,390
VE9AA	445	172	76,540
VE3TW	472	149	70,328
VE6BBP	436	131	57,116
VE5KS	483	117	56,511
VE4YU	376	134	50,384
VE3EJ	290	122	35,380
VE9HF	310	100	31,000
VA3XH	227	101	22,927
VE3NB	223	97	21,631
VE3IAE	224	86	19,264
VE4VT	246	76	18,696
VE7FCO	194	95	18,430
VE8GER	171	79	13,509
VA3GKO	159	84	13,356
VA3WU	192	69	13,248
VE2EBK	166	77	12,782
VE5GC	197	63	12,411
VE2AWR	166	68	11,288
VE6SQ	161	67	10,787
VE6KAD	145	64	9,280
VA3YOJ	160	56	8,960
VA3EEB	125	61	7,625
VE3RCN	108	61	6,588
VE3TA	98	63	6,174
*VE1ZA	93	64	5,952
*VE3HG	104	54	5,616
VY2MP	89	52	4,628
VE3BK	96	48	4,608
VO2NS	123	37	4,551
VE3EEU	92	45	4,140
VE3MGY	102	36	3,672
VE3TU	71	38	2,698
VE3RX	71	35	2,485
VA2WA (VA2WDQ)	61	38	2,318
VA7GLL	53	28	1,484
VE3PYJ	53	27	1,431
VE2DRO	32	28	896
VE7GM	36	22	792
VE4DRK	30	24	720
VE3XAT	32	21	672
VA3DLJ	28	22	616
VA3TCD	27	20	540
VE5WD	20	20	400
*VA3WR	26	14	364
VE4RON	22	13	286
VA2UTC	20	14	280
VA7GAP	21	10	210
*VE7NWC (VE7KA)	10	9	90
VE7DQE	4	4	16

**Note:** In the above contest an \* indicates QRP.

## REF CONTEST, CW 2013

Call	QSO	Mult	Score	Category
VE1OP	95	78	22,230	SOAB
VE2AWR	72	64	13,696	SOAB
VE2CQF	52	44	6,776	SOAB
VE9AA	52	37	4,995	SO20
VA3GUY	47	33	4,653	SO20
VE3FJ	39	33	3,861	SO20
VE3ZT	27	26	2,054	SOAB
VE9HF	20	19	1,140	SO20
VE5MX	15	14	602	SOAB
VE2QV	14	14	588	SOAB
VA3RKM	9	8	216	SOAB
VE1ZA	3	3	27	SO15

## DE QSO PARTY, CW 2013

Call	QSO	Mult	Score
VE9ML	5	3	80
VA3GKO	3	3	68
VE5KS	3	2	62
VA2SG	2	2	58

# CQ 160-METER CONTEST, SSB 2013

Call	QSO	Mult	Score	Countries	Category
VY2ZM	1,699	57	1,569,542	77	SOAB HP
VE3EJ	1,404	58	931,911	55	SOAB HP
VA2EW	1,268	58	780,985	51	SOAB HP
VE3TA	1,238	58	770,364	50	SOAB HP
VE2OJ	986	57	481,702	40	MO HP
VE3KI	884	57	477,564	45	ASSISTED
VA2WA (VA2WDQ)	868	56	433,865	39	SOAB HP
VE3MMQ	703	56	404,687	47	ASSISTED
VE3CX	729	58	317,944	30	ASSISTED
VE3YAA	720	53	288,720	27	MO HP
VE9HF	588	48	268,000	32	ASSISTED
VE3XL	714	51	247,032	21	SOAB LP
VE3PN	485	46	242,676	35	SOAB HP
VO1HP	406	38	236,560	42	ASSISTED
VE3MGY	574	55	214,320	21	QRP
VE3MIS (VE3IMG)	585	51	155,614	7	ASSISTED
VE6BMX (@VE6JY)	463	54	142,208	10	ASSISTED
VE3CV	348	55	128,834	19	SOAB LP
VE6BBP	405	54	128,765	11	SOAB HP
VE3SB	359	50	112,448	14	SOAB LP
VE9AA	279	39	106,284	29	SOAB HP
VE1ZA	362	42	106,200	18	SOAB LP
VA3DX	264	52	93,223	19	ASSISTED
VE3ADQ	312	51	92,070	11	SOAB LP
VE9ML	329	43	90,858	14	MO LP
VA2AM	214	43	88,060	31	ASSISTED
VA3EC	343	49	84,032	3	ASSISTED
VA2EU	253	46	66,920	10	SOAB LP
VE3CUI	262	42	53,360	4	SOAB HP
VE3TW	247	42	51,216	2	SOAB LP
VE3AOD	194	44	42,528	4	SOAB LP
VA1GE	172	36	40,443	15	SOAB HP
VE3XAT	170	45	38,023	2	ASSISTED
VA3ATT	202	41	37,843	0	SOAB LP
VE3RCN	194	37	35,607	2	SOAB LP
VE3EY	179	38	33,540	1	SOAB HP
VE9OA	163	35	31,480	5	SOAB LP
VE2AWR	166	35	27,160	0	SOAB LP
VE6LB	148	35	27,132	3	ASSISTED
VE3HG	162	36	26,496	0	QRP
VA7MM	152	33	24,745	2	SOAB LP
VE3UZ	153	33	24,354	0	SOAB LP
VE3OSZ	68	49	24,304	13	SOAB LP
VE4VT (VE2EAR)	109	42	23,056	2	SOAB LP
VA3WR	148	30	20,820	0	QRP
VA7ST	114	32	19,006	2	SOAB LP
VE7CV	114	31	17,754	2	SOAB LP
VA3FN	107	32	15,904	0	SOAB LP
VE3FU	61	29	15,662	12	SOAB HP
VE3MV	98	33	15,164	1	ASSISTED
VE7CA	110	23	14,364	4	ASSISTED
VE3GFN	102	30	14,070	0	SOAB LP
VE2FK	104	26	13,041	1	SOAB LP
VE3MM	76	32	12,852	4	SOAB HP
VO1TA	66	29	11,916	7	SOAB HP
VA3RKM	56	18	4,482	0	QRP
VA3WU	42	21	3,528	0	SOAB LP
VE6EX	36	12	1,956	0	QRP
VE3FAL	29	14	1,876	0	QRP
VE1OP	23	14	1,683	3	ASSISTED
VE3OIL	24	12	1,044	0	SOAB LP
VE3IGJ	12	9	423	0	QRP
VO1BQ	10	9	342	0	SOAB HP
VE5GC	8	8	192	0	SOAB LP

## HUNGARIAN DX CONTEST 2013

Call	QSO	Mult	Score	Category
VE9ML	154	40	27,440	SOAB LP MIX
VE9HF	493	15	22,170	SO20 HP CW
VA3AR	218	30	20,640	SOAB HP CW
VE7JH	198	23	13,777	SOAB HP CW
VE9AA	99	15	5,115	SO20 LP CW
VE3FH	72	17	3,859	SOAB LP CW
VA3EC	70	15	3,330	SOAB LP CW
VE3KAO	79	13	3,302	SOAB LP CW
VE2FK	48	11	1,694	SOAB HP CW
VE9OA	43	9	1,440	SOAB LP MIX
VA2UTC	6	2	48	SO15 LP SSB

**NA QSO FEB PARTY RTTY 2013**

Call	QSO	Mult	Score	Category
VA2UP	717	169	121,173	SO
VE4EAR	527	147	77,469	SO
VE3KI	496	146	72,416	SO
VE7BSM	459	157	72,063	SO
VA7ST	497	142	70,574	SO
VA7AM	518	133	68,894	SO
VE2FK	457	143	65,351	SO
VE3RZ	468	138	64,584	SO
VE3CX	435	137	59,595	SO
VE6AO	431	118	50,858	SO
VE3JI	391	130	50,830	SO
VE2EBK	398	125	49,750	SO
VE5KS	313	140	43,820	SO
VE3VSM	340	128	43,520	SO
VE2FXL	314	108	33,912	SO
VE3IAE	282	111	31,302	SO
VE3VID	300	104	31,200	SO
VE3RCN	256	102	26,112	SO
VA2SG	253	94	23,782	SO
VA5LF	253	87	22,011	SO
VA3PC	218	87	18,966	SO
VE5MX	226	81	18,306	SO
VE3AJ	210	83	17,430	SO
VE6KAD	181	78	14,118	SO
VE3KAO	174	76	13,224	SO
VE7IO	147	77	11,319	SO
VE3XAT	132	78	10,296	M2
VE2AXO	136	68	9,248	SO
VE9AA	130	71	9,230	SO
VE7IN	121	69	8,349	SO
VE6AX	123	66	8,118	M2
VE7DXH	116	65	7,540	SO
VY2LI	113	62	7,006	SO
VE2SG	83	54	4,482	SO
VE6SQ	84	40	3,360	SO
VE7FCO	56	30	1,680	SO
VE7GM	57	29	1,653	SO
VA3DDX	58	28	1,624	SO
VE9OA	53	29	1,537	SO
*VA3WR	50	30	1,500	SO
VA7HZ	34	23	782	SO
VE9HF	26	17	442	SO
VE7BGP	19	16	304	SO
VE2ER	14	9	126	SO

**NORTH AMERICAN QSO PARTY, CW JAN 2013**

Call	QSO	Mult	Score
VE3EJ	999	257	256,743
VE3JM	1,039	237	246,243
VA7ST	959	215	206,185
VE6EX	943	211	198,973
VE3EY	850	221	187,850
VE6BMX	812	215	174,580
VE3KI	786	215	168,990
VE3OI	766	199	152,434
VE3KZ	622	228	141,816
VE3MA	679	198	134,442
VE3CX	645	206	132,870
VE9AA	611	201	122,811
VE5MX	636	189	120,204
VE5ZX	731	160	116,960
VA3EC	620	182	112,840
VE2AWR	546	176	96,096
VE3XB	496	185	91,760
VE3GFN	523	168	87,864
VE3IAE	471	141	66,411
VE3TW	370	143	52,910
VE3ZT	369	132	48,708
VE4VT (VE4EAR)	294	149	43,806
VE9HF	324	122	39,528
VE2EZD	300	119	35,700
VE5KS	268	125	33,500
VE7IO	317	104	32,968
*VE3HG	276	114	31,464
VE3DZ	321	95	30,495
VE3KAO	253	107	27,071
VE1RSM	198	103	20,394
VA6AM	182	106	19,292
VA2WA (VA2WDQ)	228	84	19,152
VE3RCN	196	95	18,620

VE5GC	188	80	15,040
VA3FN	164	89	14,596
VE3OM	171	78	13,338
VY2LI	136	81	11,016
VE9OA	134	66	8,844
VA2ES (VE2AXO)	113	70	7,910
VA2EW	124	59	7,316
VE3VSM	116	50	5,800
VE3FJ	124	41	5,084
*VA3RJ	72	68	4,896
VA3GUY	99	36	3,564
*VA3WR	85	37	3,145
VE2DJN	77	38	2,926
VE7BGP	47	33	1,551
VA7MM	47	29	1,363
*VO1TA	36	23	828
VE3XAT	22	18	396

**CQ 160-METER CONTEST, CW 2013**

Call	QSO	Mult	Score	Countries	Category
VY2ZM (Op K1ZM)	364	48	202,400	44	SOAB HP
VE3MIS	541	54	170,214	12	MS
VE3CX	490	54	150,016	10	SOAB HP
VE3DC	482	52	138,653	9	MS
VA3YP	541	45	130,350	5	Assisted HP
VE3PN	418	40	124,684	21	Assisted HP
VE3MGY	444	45	114,480	8	SOAB LP
VE2UMS	408	43	103,626	11	MS
VE6BBP	275	54	80,825	7	SOAB HP
VE3EJ	282	40	73,405	13	SOAB HP
VE2TZT	187	41	60,262	17	Assisted HP
VE3VZ	250	43	55,750	7	SOAB LP
VE3NB	218	44	53,193	7	SOAB LP
VE3EDY	201	44	49,764	8	SOAB LP
VA3WU	242	36	49,235	7	SOAB LP
VE3KZ	233	41	48,418	2	SOAB HP
VE6DDD	195	45	45,200	5	SOAB HP
VE3TU	177	41	36,388	3	SOAB LP
VA3GKO	204	33	33,084	3	SOAB LP
VE9HF	148	29	28,197	10	SOAB HP
VE9MY	76	22	19,734	17	Assisted HP
VA7FC	114	29	17,952	4	Assisted HP
VE9AA	103	21	17,792	11	SOAB HP
VE6EX	98	30	14,432	2	SOAB LP
VE9ML	70	26	12,410	8	Assisted LP
VE3RCN	91	25	11,050	1	SOAB LP
VE2HAY	85	25	10,692	2	SOAB LP
VA2AM	57	20	10,560	12	Assisted HP
VE3NQM	87	25	10,000	0	SOAB LP
VE4VT	59	30	8,580	0	SOAB LP
VE6JY	46	28	7,875	7	Assisted HP
VE3FU	50	22	6,944	6	Assisted HP
VA2WA (VA2WDQ)	71	22	6,886	0	Assisted LP
VA3EC	64	21	6,776	1	SOAB LP
VE6KD	57	27	6,669	0	Assisted HP
VE3XAT	53	24	6,024	0	SOAB HP
VA3ST	47	23	5,356	3	Assisted HP
VE3MT	45	20	3,900	0	SOAB LP
VA3FN	46	17	3,774	0	SOAB LP
VA3NW	37	14	2,464	0	SOAB LP
VE3SS	20	9	819	0	SOAB HP
VE3CUI	17	11	708	1	SOAB HP
VE5MX	3	3	36	0	Assisted HP
VA3RKM	1	1	5	0	QRP

**UBA DX CW, 2013**

Call	QSO	Mult	Score	Category
VE1OP	146	40	14,520	CLP
VE9HF	153	27	10,179	A20HP
VA3ATT	53	38	7,410	CLP
VE1RSM	45	35	5,915	CLP
VE3KAO	54	31	5,580	A15LP
VE2AWR	34	19	1,995	CLP
VE9AA	29	13	936	A20LP
VA3RKM	13	7	189	E



# CONTEST CALENDAR FOR JANUARY, FEBRUARY AND EARLY MARCH 2014

Contest Name	Start	End	Web Address
SARTG New Years RTTY	0800z Jan 1	1100z Jan 1	<a href="http://www.sartg.com/">http://www.sartg.com/</a>
ARCI Pet Rock Sprint	1500z Jan 4	1800z Jan 4	<a href="http://www.qrparci.org/">http://www.qrparci.org/</a>
ARRL RTTY Roundup	1800z Jan 4	2400z Jan 5	<a href="http://www.arrl.org/rtty-roundup">http://www.arrl.org/rtty-roundup</a>
NA QSO Party CW	1800z Jan 11	0600z Jan 12	<a href="http://www.ncjweb.com/">http://www.ncjweb.com/</a>
NAQCC Sprint	0000z Jan 16	0400z Jan 16	<a href="http://naqcc.info/">http://naqcc.info/</a>
Hungarian DX Contest	1200z Jan 18	1200z Jan 19	<a href="http://www.ha-dx.com/HADX/">http://www.ha-dx.com/HADX/</a>
NA QSO Party SSB	1800z Jan 18	0600z Jan 19	<a href="http://www.ncjweb.com/naqprules.php">http://www.ncjweb.com/naqprules.php</a>
ARRL VHF Sweepstakes	1900z Jan 17	0359z Jan 20	<a href="http://www.arrl.org/january-vhf">http://www.arrl.org/january-vhf</a>
ARCI Winter Fireside SSB	2000z Jan 26	2359z Jan 26	<a href="http://www.qrparci.org/">http://www.qrparci.org/</a>
BARTG Sprint RTTY	1200z Jan 25	1200z Jan 26	<a href="http://www.bartg.org.uk/sprintcontest.asp">http://www.bartg.org.uk/sprintcontest.asp</a>
CQ 160m CW	2200z Jan 24	2200z Jan 26	<a href="http://www.cq160.com/rules.htm">http://www.cq160.com/rules.htm</a>
REF Contest CW	0600z Jan 25	1800z Jan 26	<a href="http://concours.ref-union.org/contest/">http://concours.ref-union.org/contest/</a>
UBA DX SSB	1300z Jan 25	1300z Jan 26	<a href="http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules">http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules</a>
NCJ Sprint CW	0000z Feb 2	0400z Feb 2	<a href="http://www.ncjweb.com/">http://www.ncjweb.com/</a>
MN QSO Party	1400z Feb 1	2400z Feb 1	<a href="http://www.w0aa.org/index.php/mn-qso-party">http://www.w0aa.org/index.php/mn-qso-party</a>
Delaware QSO Party	1700z Feb 1	0100z Feb 3	<a href="http://www.fsarc.org/DEQSO.html">http://www.fsarc.org/DEQSO.html</a>
10-10 Int. Winter SSB	0001z Feb 1	2400z Feb 2	<a href="http://www.ten-ten.org/">http://www.ten-ten.org/</a>
Mexico Int. Contest RTTY	1800z Feb 1	1759z Feb 2	<a href="http://www.fmre.org.mx/">http://www.fmre.org.mx/</a>
BC QSO Party	1600z Feb 1	0359z Feb2	<a href="http://www.orcadxcc.org/bcqp.html">http://www.orcadxcc.org/bcqp.html</a>
Dutch PACC Contest	1200z Feb 8	1200z Feb 9	<a href="http://www.dutchpacc.com/">http://www.dutchpacc.com/</a>
FISTS Winter Sprint CW	1700z Feb 8	2100z Feb 8	<a href="http://www.fists.org/operating.html#sprints">http://www.fists.org/operating.html#sprints</a>
CQ WW WPX RTTY	0000z Feb 8	2400z Feb 9	<a href="http://www.cqwxprtty.com/">http://www.cqwxprtty.com/</a>
NAQCC Sprint	0000z Feb 12	0400z Feb 12	<a href="http://naqcc.info/">http://naqcc.info/</a>
ARRL Int. DX CW	0000z Feb 15	2400z Feb 16	<a href="http://www.arrl.org/arrl-dx">http://www.arrl.org/arrl-dx</a>
CQ 160m SSB	2200z Feb 21	2159z Feb 23	<a href="http://www.cq160.com/rules.htm">http://www.cq160.com/rules.htm</a>
REF Contest SSB	0600z Feb 22	1800z Feb 23	<a href="http://concours.ref-union.org/contest/">http://concours.ref-union.org/contest/</a>
UBA DX CW	1300z Feb 22	1300z Feb 23	<a href="http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules">http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules</a>
NA QSO Party RTTY	1800z Feb 22	0600z Feb 23	<a href="http://www.ncjweb.com/">http://www.ncjweb.com/</a>
NC QSO Party	1500z Feb 23	0059z Feb 24	<a href="http://rars.org/ncqsoparty/">http://rars.org/ncqsoparty/</a>
ARRL Int. DX SSB	0000z Mar 1	2400z Mar 2	<a href="http://www.arrl.org/arrl-dx">http://www.arrl.org/arrl-dx</a>
HF Grid Square Sprint	1500z Mar 8	1800z Mar 8	<a href="http://www.qrparci.org/">http://www.qrparci.org/</a>
NCJ Sprint RTTY	0000z Mar 9	0400z Mar 9	<a href="http://www.ncjweb.com/">http://www.ncjweb.com/</a>

Note: In the above chart an \* indicates Local Times

## 10-10 INTERNATIONAL WINTER CONTEST, SSB 2013

Call	CTX W	CTX WO	Score
VA7TEN	139	71	349
VE5BCS	129	50	308
VA3GUY	84	28	196
VE6BMX	62	32	156
VE8GER	65	0	130
VE3OX	36	1	73
VE3MEW	27	8	62
VE2KCA	26	2	54
VE2HAY	15	3	33

## NORTH AMERICAN FEB SPRINT, CW 2013

Call	QSO	Mult	Score
VE3JM	281	47	13,207
VE6EX	229	46	10,534
VE3KI	209	39	8,151
VE9AA	172	39	6,708
VE5MX	37	19	703
VE3RCN	15	12	180
VA7ST	1	1	1

## REF CONTEST, SSB 2013

Call	QSO	Mult	Score
VE2TZT	139	82	28,454
VE2AWR	111	83	25,315
VE9BWK	25	22	1,518
VE9AA	22	20	1,200
VE2EZO	24	17	1,088
VE5MX	17	15	765
VA2UTC	15	15	615
VE2NMB	12	12	432
VA3RKM	12	12	408
VE9HF	2	2	8

## UBA DX SSB, 2013

Call	QSO	Mult	Score	Category
VE9ML	339	130	195,650	D
VA3GKO	79	49	19,551	CLP
VE9HF	113	31	11,594	A20HP
VA2QR	22	23	3,634	CHP
VA2BS	17	18	1,908	CLP
VE2AWR	15	13	1,144	CLP
VE9AA	12	11	627	A15LP
VE3DZ	24	10	600	A40LP

## VERMONT QSO PARTY 2013

Call	QSO	Mult	Score	Class	Power
VE5KS	9	6	108	SO	LOW
VA3GKO	8	4	64	SOA	LOW
VE7JH	2	3	12	SO	LOW
VE9ML	2	3	12	SO	LOW
VE9AA	3	3	9	SO	HIGH
VA7ODX	2	2	8	SOA	LOW



For the RAC Store visit: [http://www.cafepress.ca/rac\\_radio](http://www.cafepress.ca/rac_radio)

# SECTION NEWS

## THE RAC FIELD ORGANIZATION FORUM

### MESSAGE FROM THE RAC CHIEF FIELD SERVICES OFFICER

#### **New Ontario Section Managers begin the election cycle in 2014**

Calling all Club Presidents in the Ontario South and Ontario East Sections.

We need your help in finding the very best possible candidates for the upcoming SM elections.

Both election notices will appear in the September-October 2014 TCA as a Solicitation for Section Managers for new terms that will begin in March 1, 2015.

The Ontario North and GTA Section Managers Solicitation will appear in the September-October 2015 TCA for a new term to begin March 1, 2016.

So, with lots of time to find the best candidate, let's get the word out. Your Section deserves "the best."

#### **Section Manager's Council is seeking a Secretary**

The RAC Section Manager's Council meets monthly by webinar to discuss matters that are important to all Amateur Radio operators.

We are currently seeking a person to record the minutes (they are recorded by the webinar bridge) and then transcribed.

If you feel that you would like to get involved, drop me a note at: vo1dtm@rac.ca

#### **Thanks Ancaster Amateurs!**

I'd like to extend a very big *thank you* to all of the folks that we had the pleasure to meet at the Hamilton Hamfest and RAC AGM.

It was a thrill to meet so many of you that I already know through email etc, and congratulations to the Hamilton ARC for putting together a great day. Thanks folks!

As winter intensifies, please keep an extra ear open for folks who might find themselves in trouble on our icy winter roads, and are calling on local repeaters. I hope you had a pleasant Christmas.

*Doug Mercer, VO1DTM CEC  
Chief Field Services Officer*

report about the BMO Okanagan Marathon which was held on October 13.

I was contacted by the Race Volunteer coordinator to see if we might be interested in supplying some communications support for the race. As there was very little time to organize a full slate of operators, seven of our members volunteered to help out. We supplied a net control and six operators on the race course, passing information about the first runners in each race category.

There were over 3,500 participants in three races: 10K Race, Half-Marathon and full Marathon. It was a staggered start but still had all three races going at once. Organized confusion. We are pleased with the effort put forth by our operators and no one was lost because of Amateur Radio. The race started at 7:15 am and the racers were given seven hours to complete the course.

The race organizers indicated they would like us to help again next year so hopefully we will be a bit more prepared.

– 73, Paul, VA7MPG

#### **Public Service Honour Roll September:**

VA7MPG 197, VE7GN 160, VE7WJ 91, VE7WWW 98.

#### **October:**

VA7MPG 292, VE7EEK 105, VE7GN 195, VE7WJ 74, VE7WWW 105.

#### **Bulletins:**

**September 37  
October 57**

#### **ALBERTA:**

SM: Garry Jacobs, VE6CIA  
SEC: Curtis Bidlock, VE6AEW  
STM: Jack Humphries, VE6JRH  
OOs: Tom Martens, VE6TRM  
Don Momen, VE6JY

#### **SEPTEMBER-OCTOBER SM REPORT:**

The Simulated Emergency Test on October 19 ran a simulation of loss of cell and phone service for most of the area north of Edmonton Alberta and Amateur communications was the alternate. Was it a booming success? By most standards maybe not.



**CHIEF FIELD SERVICES OFFICER**

Doug Mercer, VO1DTM  
Box 1042  
84 Main Road  
Goulds NL A1S 1H2  
Tel. 709-364-4741  
Email: vo1dtm@rac.ca

Was it useful anyway? Definitely. Why? We learned, as with all exercises where we can improve and what can be done better next time.

The Calgary link to the Southern Alberta Repeater Association (SARA) repeater VE6OIL was not on the system and folks down there determined how dependent they were on it. Attempts to put a temporary link into the SARA system to points farther north met with further challenges that were not repairable in the time the net continued. This is all valuable knowledge. Back in June when the Southern Alberta Floods devastated the province, temporary links placed by Curtis, VE6AEW and Kiernan, VA6IP, to provide assistance to, for example Medicine Hat, went well.

Feedback from the event include: Don't use Q codes; Don't use non pro words (eg: copy that); Use tactical designations, not personal call signs, to describe the position you are manning that won't change throughout the exercise (eg: crash site, POC etc.); and make sure the words test or exercise are used on nearly all transmissions so those just popping in don't confuse it with the real thing – to name a few.

Thanks to everyone who participated and we can test our capabilities again next time there is a scenario.

– Garry Jacobs, VE6CIA

#### **MANITOBA:**

SM: Jan Schippers, VE4JS  
STM: Jan Schippers, VE4JS  
SEC: Vacant  
DECs: Jeff Dovyak, VE4MBQ (Capital Region and CanWarn); Gord Snarr, VE4GLS (South-East Central Region / South-West Region); Wayne Warren, VE4WR

#### **BRITISH COLUMBIA/ YUKON:**

SM Paul Giffin, VA7MPG  
A/SM Ron McFadyen, VY1RM  
A/SM Neil King, VA7DX  
STM Al Ross, VE7WJ  
SEC Fred Orsetti, VE7IO  
SEC Terry Maher, VYIAK (Yukon)  
OBM Bill Foster, VE7WWW  
OOC: Dennis Wight, VE7IJJ  
ACC: Karla Wakefield, VA7KJW  
Website: www.va7mpg.ca

#### **SEPTEMBER-OCTOBER SM REPORT:**

RAC President Geoff Bawden, VE4BAW, visited British Columbia early in November. This was the first visit to the Section by a serving RAC President. He had a very busy week, attending a swap meet and several club meetings in the Lower Mainland. At the end of the week he went to Vancouver Island where he met with Emergency Management British Columbia Officials. He then held a Town Hall type meeting hosted by the Cowichan Valley Amateur Radio Society in Duncan. Over 50 Amateurs from all around Vancouver Island attended the meeting where a short presentation was made followed by a question period and display of the local emergency communications trailer.

I would like to thank President Bawden for coming to visit and Director Bill Gipps, VE7XS, for all his work prior to and during the visit. I would especially like to thank all those Amateurs who attended the meetings and the swap meet to meet with and ask the President questions.

From all accounts the visit was a success. We were also reminded the RAC AGM will be held in Vancouver on the July 25 2014 weekend. Please make note of that date and stay tuned for further details. Once again, thank you to all involved.

The Burnaby Amateur Radio club has a new base station. For all the details and photos of the room see page 34.

The Shuswap Amateur Radio Club held a DXpedition to Copper Island. Watch for a full report on this event in the March-April 2014 TCA.

The Victoria Marathon was again supported by the Amateur Radio community of southern Vancouver Island. There were a couple of new initiatives this year in the way radio assisted organizers. For a full report on this event see page 44.

On October 6, members of the Coast Emergency Communications Association (CECA) held a radio room open house in conjunction with the opening of the new Fire Hall on Gabriola Island. This multi-million dollar fire hall now contains an emergency radio room. CECA members provided information to over 80 people who toured the room in the three-hour open house. The CECA members still have a lot of work to do to finalize the set up of the radio room but at this time the group can operate VHF/UHF and HF on both phone and digital. The new call sign is VE7GEC. In addition the room has been registered with Emergency Management British Columbia.

On October 17, BC held the annual Shake Out Exercise which is designed to make the public aware of their responsibilities during and after an earthquake. This year we had over 300 Amateurs registered to participate. Several ARES units conducted their own simulated emergency exercises as part of the event.

Gordon Strachan, VE7KFD, President of the Orchard City ARC in Kelowna, provided the following



(North Region and Special Projects);  
Vacant (North-Eastern Region);  
Vacant (North-West Region); EC Ron  
Wliscroft, VE4QE (Selkirk and  
District); Bill Boskwick VE4BOZ for  
RM of Grey, RM of Dufferin & Town  
of Carman

#### SEPTEMBER-OCTOBER SM REPORT:

Winter is here once again and I  
hope everyone has completed their  
antenna projects. The Winnipeg  
Amateur Radio Club held their  
fleamarket on October 20 at the  
Heritage Victoria Community  
Centre. This event was very  
popular and both buyers and  
sellers were very happy.

#### Education Report David Rosner, VE4DAR

On October 19, 15 students who  
completed the Basic Short Course 5  
wrote Industry Canada's exam for  
the Amateur Radio Operator, Basic  
Qualification. Of the 11 who passed,  
nine got the Basic Plus level, which  
gives them access to HF bands.  
Several other students who  
registered, but were unable to  
attend classes, have been  
transferred to the next course.  
Basic Short Course 6 began on  
Saturday, November 2 at the  
Winnipeg Senior Citizens Radio  
Club. Once this class is completed  
we will have graduated more than  
80 new Amateurs.

#### Winnipeg ARES Jeff Dovyak, VE4MBQ

During the CanWarn Summer  
Severe Weather Season, Manitoba  
ARES volunteers ran 16 weeks  
from May 13 through September 1  
with an ARES Net Controller on  
call daily from either 0930-1730h or  
1730-2130h.

We covered 33 weeklong on-call  
shifts (Severe Wx Program Manager  
& Warning Preparedness  
Meteorologist notified in advance).

Thirteen ARES members took  
week-long on-call obligations for  
VE4WWO in the Prairie & Arctic  
Storm Prediction Centre for 2013  
(many took multiple weeks).

Thanks to: Ellis Seddon, VE4AJO;  
Gerry Sherman, VE4GKS; Bill  
Simm, VE4ALW; Allan Grant,  
VA4AJG\*; Dick Maguire, VE4HK;  
Glen Napady, VE4GWN; Don  
Gerrard, VE4DWG; Craig Martin,  
VE4CDM; Diane Perry, VE4LDI\*;  
Scott Lightfoot, VE4STL\*; Harm  
Hazeu, VE4HAZ; John Howells,  
VE4JAH\*; Jeff Dovyak, VE4MBQ;

*Note: In the above list an \* denotes  
new CanWarn Net Controllers*

There were 12 Severe Weather  
Nets (first net June 10, last net  
August 31, running from one and  
one-half hours (June 20) to seven  
hours duration (August 30). The  
average net was 3.7 hours long.  
There was an also pre-planned  
coverage for VE4WWO on Sunday,  
June 16 during the Manitoba  
Marathon (just over seven hours).

## RAC SECTION MANAGER ELECTION NOTICE: MANITOBA AND QUEBEC SECTIONS

You are hereby solicited for nominating petitions pursuant to an election for Section Manager. The name of the incumbent appears on **page 4** of this issue of *The Canadian Amateur*. A petition, to be valid, must carry the signatures of five or more full members of RAC residing in the Section concerned. It is advisable to have more than five. Photocopied signatures are not acceptable. Signatures must be on the petition. Petition forms are available from RAC Headquarters but are not required.

The form below is acceptable:

#### Third Notice to all RAC members in the Manitoba and Quebec Sections

(place & date)

RAC Chief Field Services Officer  
720 Belfast Road, Suite 217  
Ottawa, ON K1G 0Z5

We, the undersigned RAC Full members residing in the **Manitoba and Quebec Sections**, hereby nominate

(name & call sign)

as Section Manager for this Section for the next two-year term of office.

(signatures & call signs)

(addresses with postal codes)

A Section Manager must be a resident of his or her Section, a licensed Radio Amateur holding an Amateur operator's Certificate (or equivalent as stipulated by the *Radiocommunication Regulations*) and should always operate radio equipment only within the limits and privileges of the certificate and qualification held, and have been a RAC Full Member for a continuous term of two years at the time of nomination.

Petitions will be received at the RAC Headquarters office until 1600E on March 10, 2014. If only one valid petition is received, the person nominated will be declared elected. If more than one valid petition is received, a balloted election will take place. Ballots will be mailed from RAC Headquarters on or about April 1, 2014. Return of ballots by 1600E May 20, 2014 and will be counted after May 21, 2014.

A Section Manager elected thus will serve a two-year term which begins on July 1, 2014. If no valid petition is received, the Section will be resolicited in *The Canadian Amateur*.



The VE4MAN repeater belonging to the Manitoba Repeater Society located at the CBC Starbuck site was utilized for at least 23 hours for CanWarn traffic.

Throughout the period there were 15 Station Visits (Station Check, Controller Familiarization, Service Visits). The assistance of VE4WWO Station Custodian Kent Haase, VE4KEH, was invaluable. There are serviceability issues with the Kenwood TM-261 transceiver. Several repair calls were needed to service the microphone and several other visits due to local interference that can't be squelched out. The local interference can be alleviated on our Yaesu FT-1500 transceiver by enabling CTCSS – we don't have that ability on the TM-261.

We have moved to Yaesu FT-1900R transceivers at the City of Winnipeg Emergency Operations Centre (VE4EOC) and Winnipeg ARES owns one. They are simple to operate and have the CTCSS features that would be required at PASPC. A Canadian Amateur dealer, Radioworld, lists the FT-1900R at \$185.

Radio Amateurs of Canada announced on October 28 that the recipient of the first ever RAC Member Recognition Extraordinary Award is the VE4WWO CanWarn Net Controller Team.

The annual Parkinson Society SuperWalk was held on Saturday, September 7. The route began and ended at the French Cultural Centre on the corner of Provencher and Des Meurons. The walk began at 10 am, with all entrants back just before 11 am. It was fortunate the event ended when it did since there was a serious crash on Provencher, right on the route, shortly after 11 am, which tied up the street for several hours. Our volunteers did not encounter any problems during the event. All marshals and water stations were in place. Everything went very smoothly.

Thanks to the 16 volunteer operators: VA4IAM; VE4s: HK, DAR, MMG, CDM, JAH, CHT, GWN, YYL, STS, KAZ, DJS, SE, GKS and VD; and Jeffrey Kazuk.

Special thanks to: Dick, VE4HK, for coordinating the event; John VE4JAH, for transporting the ARES Boler trailer; Rhonda Dovyak for laundering the loaner vests.

Additional information on the Parkinsons event can be seen at: [http://www.winnipegares.ca/archives/2013\\_Parkinson.html](http://www.winnipegares.ca/archives/2013_Parkinson.html)

Diane Perry, VE4LDI, gave us a very comprehensive presentation on the history of St John Ambulance and current operations and

volunteer qualifications at our September General Meeting. Welcome to our newest member Jack Peters, VA4PNO.

Thirty-two ARES members and affiliates braved a cool, damp Saturday morning on October 19 to provide Amateur Radio communications support for the Winnipeg Fire Paramedic Service Half-Marathon. The event centred once again at Canadian Mennonite University in Charleswood and we had three volunteers in reserve at home. Thanks to Ian Boughton from Manitoba EMO for bringing out the EMO Emergency Coordination unit for us to use as ARES Net Control/Ski Patrol Dispatch. This was the first time that any ARES unit operated out of that vehicle.

Our volunteers were VA4s: AJG and RWT. VE4s: DWG, KEH, HAZ, JAH, DXR, GMT, HQ, DJS, CDM, SIG, JNF, CHT, DLA, GWN, YYL, KAZ, SBS, BOY, LIT, ANF, PH, PEH, SE, XYL, GKS, HK, MWH, APJ, AIN, PPG, JAL, MMG, MBQ and Jeffrey Kazuk. Special Thanks to Tom Mills, VE4SE and Ruth Mills, VE4XYL, for picking up the ARES Boler trailer and keeping it at home in case the EMO vehicle was deployed at the last-minute on a provincial emergency and returning it to the EMSB on Monday.

The Winnipeg ARC Fleamarket was a very successful fundraising event. Thanks to all donors and ticket purchasers. Special thanks to co-chairs Craig Martin, VE4CDM and John Foster, VE4JNF

— Jan Schippers, VE4JS

#### Traffic Totals

September: 12

October: 13

#### ONTARIO NORTH:

SM: Al Boyd, VE3AJB  
Email: ve3ajb@vianet.ca  
STM: Pat Dopson, VE3HZQ  
Email: dopsonp@vianet.ca  
SEC: Dave Hayes, VE3JX  
Email: ve3jx@bell.net  
OBM: Paul Caccamo VA3PC  
Email: va3pc@ciinet.org  
Website: <http://ontario.racares.ca>

#### SEPTEMBER-OCTOBER SM REPORT:

I want to take this opportunity to thank the entire ARES group out of northern Ontario for their participation in the fall Simulated Emergency Test (SET). Reports were excellent and communications worked very well. Thanks again for all the hard work that you do.

#### SEC Dave Hayes, VE3JX report:

This report contains some of the participation in the annual Simulated Emergency Test. You will note the advanced position that Amethyst and Killarney are in with respect to digital messaging. My congratulations to those Districts for embracing text messaging for sending greater volumes of traffic than is possible with voice.

My congratulations also to Albany, particularly the Sault area, for the rejuvenation of the SET program as connected with the new EOC there. I was particularly impressed with the ability of Mark Geall, VE3FOG, to participate in the exercise. The new EOC allows for wheelchair access. Mark and his motorized wheelchair were able to enter the building and operate our ARES station there. His skill and enthusiasm for the exercise was much appreciated by all. Brent MacMillan, VE3OTL and his team are working to update and improve our response ability in this area.

Any additional SET activity in the Section will be reported next issue as those reports become available. Our sincerest thanks to all those who helped make this exercise successful.

#### Albany DEC reports:

All focus was on the provincial SET. Sault Ste Marie and Echo Bay teams worked together using the local club repeater (capable of emergency power operation) as well as simplex to test local communications. With several newer members and a new EOC station to become familiar with, concentration was on testing the effectiveness of the new antennas

and other facilities within the local areas.

Elsewhere in the District, there was little or no SET activity, due to various circumstances. Here are the Albany EC's reports:

**Sault Ste Marie & Area EC** Brent MacMillan, VE3OTL, reports that the SET on October 26 went well, although it was a back to basics ARES SET. A few of us hadn't been involved in an SET for a while so there was a bit of a learning curve, some things we couldn't find, some things we eventually did find, and lots of questions going forward.

The highlight of the SET was that the antennas at the EOC work extremely well. Stations in London, Welland, Toronto and Thunder Bay had no problem hearing us. In fact the net control station in Southern Ontario couldn't hear Thunder Bay so we relayed messages for them.

The VHF antenna which had previously been untested worked just as well. We could work local repeater systems in Rudyard, Newberry and Petosky, Michigan. We also were in contact with the EOC at the Laird township hall.

Seven Amateurs participated. Thanks to Elmer, VE3DYR, Mark, VE3FOG, Dave, VE3DPT, Frank, VA3MAX, John, VE3KOQ and Bob, VA3BA, who assisted Brent, VE3OTL, in setting up and operating the HF and 2m station at the EOC and the backup EOC station at the Sault Ste Marie City Police.

Contacts on HF were made on the Trans-Provincial Net which was the designated net frequency for this SET. Stations worked were the net control stations and Roy, VA3NP, in Welland, Shawn, VE3PSV, in Cambridge, and Jim, VE3TPZ, in Stratford. We QSY'd to ONTARS net briefly, but no stations were heard.

On 2 metres, we worked the fire halls around the city, as they were being activated by our rover crew, VE3DPT and VA3MAX. Contact was also made with Dave, VE3EGC, at the Laird Township Hall, which is their EOC. Although we could not raise any stations, repeaters were worked in Kinross, Newberry, Petosky, and marginally into Marquette.

The most immediate issue is that some of the radio operators are not familiar with the HF radio at the EOC. It is a different model than the one at the Police Services building. Being a newer radio, it is more menu driven so, at first glance, it would appear to be difficult to operate. It is actually very user friendly, but it takes some operating time to become familiar with it. Therefore, during the weekly ARES net on Sunday, we are going to operate from the EOC with different ARES members to familiarize them with the new

equipment. Once a few of the radio operators get familiar with the radio, they can start mentoring others.

**Echo Bay & Laird EC** Dave Campbell, VE3EGC, reports that he checked in and out of the SET net on 7.055 informing that he was on frequency and had emergency power from my QTH and I was QRU. Later he went to the Laird Township Office to test their VHF facilities between SSM Police and the new EOC. Tests were done on the repeater (VE3SSM) and on simplex. All tested fine. At this time there is no digital link for formal traffic. Tests were done with VA3BZ, VE3DYR, VE3KOQ, VE3OTL and VA3MAX.

**Elliot Lake EC** Davis Sutherland, VE3SUT, reports that they had seven members out for the Halloween patrol.

**Timmins EC** Don Tambeau, VE3HOL, commented on the lack of youthful participation in ARES there, or ham radio in general for that matter, with most members in their 70s. (Youth are our future.) Donald and crew will be testing out D-Rats messaging in the near future at my request.

**Killarney DEC** Stiig Larson, VE3LBX, provided a report from EC Jim McLean, VE3LJM (Manitoulin Island and North Shore) indicating that a new digital radio system was installed at the EOC for Billings Township in the Municipal building in Kagawong, just in time for the October SET.

**Sudbury EC** Alan Viitala, VA3AJV, reports that there was sparse attendance for this year's SET held at the Sudbury EOC. I would like to send a huge thank you to those who participated and especially AEC Wayne, VE3THN, for taking the lead on the exercise! In attendance were new members Real, VE3ZDK and Thelma, VE3WIP, along with AEC Marc, VE3SNA and AEC Wayne, VE3THN. All radio systems were powered up and tested. There was no local traffic and all was quiet.

On the HF side, our radio system was performing well and the Trans-Provincial Net on 7.055 was working very well with great propagation. VE3THN checked in with no traffic and electrical power availability report. While following along with the net in the background, VE3THN had a brief tutorial to the new recruits on NBEMS and digital modes in general. We are starting to explore digital modes and training demos will be held over the winter.

Later in the session, a different operator was selected to contact the TPN controller to request to be excused from the net. This gave each new operator some valuable on-air experience and practice. At the end of the SET all logs were checked and the proper equipment

shutdown procedures were observed.

**Amethyst DEC** Fred Lesnick, VE3FAL, reports that October proved to be a good month for members of the Lakehead ARC and others in the District. Three members of LARC participated in what was their 15th year with Scouts Canada's Jamboree On-The-Air known (JOTA). For more information see page 47.

About half of our ARES members in Thunder Bay checked in to the SET and Warren, VE3FYN, in Atikokan also took part. No other reports from other locations reported activity. Stations were set up at VE3SAO, VE3ONN and VE3FAL. Digital modes were used using RMS EXPRESS and utilizing VHF/UHF and HF. Once again this year we simulated zero Internet and relied on Digital email to get our messages across to EOC. We were also able to activate the stations at North Central Fire Hall and at Thunder Bay Regional Hospital.

We were able to use WL2K and P3 for some of the larger traffic that had to be moved. An added problem was there had been a solar storm and even the HF bands proved to be a challenge even for P3. But what we found was that during this time there were only a few HF RMS Express stations on and Warren, VE3FYN, VE3ONN and VE3FAL were either working that station on another frequency making it hard for us to get in or conditions were just bad.

We know in Thunder Bay that we need to once again focus on the basics first, with net procedures and protocol as well as just plain voice traffic and message handling. We are looking also at the criteria that ARES members need or should have to be a certified and trained member with continual education being the main focus as well as practice, of course. All in all it went well but of course it always needs improvement. Thanks to all who checked in, helped out and lent a hand for the day.

**Atikokan EC** Warren Paulson VE3FYN, reports: Atikokan participated in the 2013 SET this year, by scanning and sending a mock disaster notification to the provincial EOC via Winlink. Because of our remote location, the message was sent via HF. Due to band conditions it was actually forwarded via a US station. While our participation in the event was minimal, we concluded:

1) My short letter scanned as B/W (not greyscale) into MS-Paint and saved as a PNG file was 23 kB in size. This is well within the 120 kB limit of Winlink, and produces a good reproduction of text. MS-Paint can be found on any Windows machine. It demonstrates that sending scanned documents via Winlink is viable.



2) At 23 kB with a 500 Hz connection, it took 23 minutes to send the file. Presumably the recipient would have Internet, but if not, receiving could take another 23 minutes. This demonstrates that while sending scanned documents is viable, it should be limited to necessary documents. (I can see the declaration being scanned, as it triggers actions by the Province.)

3) Winlink is a solid platform for sending and receiving messages. Using Paclink and a Pactor modem, an EOC could allow staff to send and receive messages directly from their networked desks, with an Amateur running the station to actually send/receive.

Though it was a simple task, this was a good exercise.

**North Bay** EC Bill Silver, VE3SPT, reports that in September they participated in the "4th Annual Run Off-the-Grid". This is a back country trail foot race run west of Mattawa. Six Amateurs participated: VA3PC, VE3LOR, VA3YO, VA3SPT, VA3BDR and VA3CMX. They drove a combined total of 600 kilometres connected with this event.

#### **DECs reporting:**

VA3s: PC

VE3s: LBX, JX, FAL

#### **ECs reporting:**

VA3s: AJV and SPT

VE3s: AJB for LJM, SUT, RQR, JX and MXJ.

#### **ONTARIO SOUTH:**

SM: Ian Snow, VA3QT

SEC: Vacant

SBM: Brad Rodriguez, VE3RHJ

STM: James Davidson, VE3TPZ

Website: <http://ontario.racares.ca>

#### **SEPTEMBER-OCTOBER SM REPORT:**

In conjunction with the September 26 Hamilton Hamfest and RAC AGM I was able to conduct an ARES leadership seminar. While I had invited President Geoff Bawden, VE4BAW and CFSO Doug Mercer, VO1DM, to audit the session I was astonished to have both Ontario directors and a number RAC Executive officers attend. What I thought would be a 45-minute "meet and greet" with some of the Golden Horseshoe ECs turned into a two-hour wide-ranging and very worthwhile Q&A session. I am indebted to Pat Barrett, VE3RHN (Barrie EC) and James Davidson, VE3TPZ (STM) who stood by a mobile COMCEN display on my behalf during the seminar.

The major October event was the SET. For reasons not yet known the VE3EMO station did not come on-air, but operating from the City of Barrie EOC I was able to hear stations throughout southern Ontario and as far west as Atikokan. A sincere thank you to the OPN and TPN net control stations who supported the SET.

Relays included traffic that was sent to the simulated provincial EOC duty officer via the Winlink 2000 Global Radio E-Mail System. This was the first time that data modes were emphasized in the annual SET. The task was to obtain a "Declaration of Emergency" letter from the host municipality, scan it, and transmit it to simulated PEOC. Most participants used HF and were able to reduce the resolution of the graphic to the point where it could be transmitted in 12 to 19 minutes depending on the mode (WINMOR or Pactor III). Very impressive for this first attempt.

If you are reading this column you are probably a member of RAC. As such, I encourage you to study President Bawden's Report to the AGM for it contains an outline of the strategy to expand the role of the Sections as the link between our national society and the Amateur Radio community at large (see page 5 of the November-December 2013 TCA).

I also encourage you to review BC SM Paul Giffin, VA7MPG's commentary on emergency communications at page 59 of the same issue. As the members of RAC we are the stewards of our national association and nothing is more important than our nominating and electing the most competent Amateurs available as the Regional Directors and Section Managers. I believe that with the election of Rod Hardman, VE3RHF, Past President of the Oakville club and an active ARES operator, to succeed Ontario South Regional Director Jeff Stewart, VA3WXM, we will continue to be in good hands on the policy and RAC governance front. As the RAC appointed inaugural Ontario South Section Manager my chief responsibility is to recruit a strong section management team in preparation for an SM election in 2014. Your encouraging Amateurs who possess strong leadership, administrative and interpersonal communication skills to fill the Section public relations, club liaison and technical advisor positions to step forward would ensure success.

Congratulations to Ken Brightling, VE3ETP, of the London ARC on achieving his Certified Emergency Coordinator certification. I've asked Ken to act on my behalf as a roving ambassador for the ARES program in the southwestern portion of the section.

#### **Activity Reports**

The Tillsonburg and Area group began the season with a presentation on September 25 from Fire Chief Jeff Smith on the Incident Command System. The election of officers followed.

On October 17, the Barrie and South-Simcoe group provided communications support for a Town of Innisfil exercise.

VE3RRD and VE3MDE operated at the main EOC while VE3ILA and VA3OL operated from the simulation cell where the Incident Command and on-scene agency response controllers were located. VA1QT acted as Liaison and VE3KDG was the Rover. Voice and NBEMS operations commenced within 45 minutes of the callout and a number of IMS-213 messages were exchanged. The major lesson was that the IMS forms and document control system require that we review how IMS messages are handled, serviced and tracked in what quickly became demanding circumstances as more and more agency coordinators utilized the service. VE3RNN, RRD, MIC and VA3QT operated from the Barrie EOC for the October 26 SET.

The Stratford/Perth County group met on October 12 to train on the IMS-213 General Message and IMS-214 Activity Log forms. During the SET the group operated VE3PRC from its new location at the Stratford Red Cross building, and Group Coordinator Allé Brander, VE3CWL, liaised with Perth County CEMC Christel Ivanyshyn and Warden Vince Judge to obtain the exercise Declaration of Emergency for the SET. The group has completed installation of dual-band antennas at nine fire halls (each with a designated ARES operator) but due to overtime costs only four halls participated in the SET (VE3NQM, VA3KEM, VE3OLS and VE3IXV). VE3KVD (NCS), VE3JRH (HF voice) and VE3TPZ (Winlink/WINMOR) operated from the Red Cross station. In addition, TPZ took voice traffic from the OPN/TPN nets and relayed it to the simulated PEOC duty officer email address.

At its September meeting, Dufferin County ARES conducted a briefing for new members orientating them to the "what and who" of ARES. Topics for the October meeting included the group's communications vehicle, Go-Kits, reviewing the fan-out list, and planning for and conducting (on Halloween night) the annual Goblin Patrol assisting as eyes and ears for the Orangeville police and the OPP.

Bob Droine, VE3LKD, EC of Grey County ARES reported a novel approach to their SET. The County CEMC provided a list of 41 municipal and county officials and employees who potentially would be called in during a county EOC activation. Between 9 am and noon, 21 of those officials were contacted in person at the addresses provided. Seven ARES operators participated as well as six additional Amateurs who volunteered. VA3GUF, VA3TS, VE3IXS, VE3WLR and VE3IBZ operated mobile, attending to the residences of the officials while VA3STG, VE3MRT, VE3CBM and VE3RUT operated from their fixed stations. VA3CIC, VA3BBD and VE3LKD activated the EOC

VA3OSE at the Owen Sound Fire Hall. Grey County DEC Brad, VE3RHJ, served as an OPN net controller and relayed the Declaration of Emergency message via HF to the simulated PEOC duty officer. The group is looking for additional operators in the Meaford to Thornbury area to help develop relationships with additional municipal officials.

— Ian Snow, VA3QT

#### **DECs Reporting:** VE3RHJ

#### **ECs Reporting:**

VE3LKD, CPP, RTE and CWL

#### **OBS Reporting:**

October: VA3STG, JUZ, KII, VBR

#### **Traffic Totals:**

September: VE3RHJ 14, VE3TPZ 11

October: VE3RHJ 13

#### **Public Service Honour Roll:**

September: VE3RHJ 74, VE3TPZ 65

October: VE3RHJ 74, VE3TPZ 96

#### **ONTARIO EAST:**

SM: Michael Hickey, VE3IPC

Email: [ve3ipc@gmail.com](mailto:ve3ipc@gmail.com)

SEC: Vacant

STM: Vacant

OBM: Brad Rodriguez, VE3RJH

Email: [ve3rhj@rac.ca](mailto:ve3rhj@rac.ca)

Website: <http://ontario.racares.ca>

#### **SEPTEMBER-OCTOBER SM REPORT:**

I am always very interested in reading the monthly group activity reports coming from ARES and or EmComm groups that are within the Ontario East Section, so keep them coming in 2014. These reports are valuable and important and it is good practice for the local DEC to share with all groups within their area of jurisdiction. This is the main reason why these reports appear here in Section News, so groups like yours can learn from what other groups in any District in any Section are experiencing and involved in. I have noticed that in this Section more groups are increasing their digital interest and capabilities. It is interesting to note that more municipal officials have a growing preference for this mode of communication for moving their emergency traffic on Amateur Radio channels compared to voice relay, once they have seen such digital relays in action.

#### **Eastern Ontario ARES District Group reports:**

##### **Renfrew County West**

##### **(RCW)-ARES Group:**

Submitted by RCW-ARES

EC Bob, VE3YX

The Renfrew County West (RCW)-ARES Group Coordinator Bob, VE3YX and Assistant GC George, VE3GPD, attended a CEMCs meeting on Monday, October 7, in the Township of Killaloe-Hagarty-Richards office in Killaloe. The meeting was attended by CEMCs from the surrounding municipalities. We set up a portable 2m packet/voice station in the corner of the meeting room to

demonstrate communications through repeater VE3UCR on voice and packet with Outpost. Following a very interesting presentation by Mike Nolan, Director of Emergency Services for Renfrew County, CG Bob did an ARES PowerPoint presentation. At the meeting we learned that there was an exercise planned for early morning on the 10th and that we were invited.

The exercise scenario had a tornado pass through Killaloe destroying much of the downtown including the EOC (town office), town fire hall and OPP station. The alternate EOC was set up in the Round Lake fire hall/evac centre. Part of the exercise was to see how combining the EOC with the evac centre would work (see page 46 for more information).

On October 30, GC Bob, VE3YX and Alan, VA3HTO, attended the OFMEM Capital Sector meeting in Horton, near Renfrew. It was a good opportunity to reconnect with some of the area's CEMCs.

For the first time in many years, RCW-ARES did not provide Goblin and Halloween night patrols for Pembroke. Most likely, the request for our patrols got lost in the conversion from Pembroke Police to OPP for the city of Pembroke. Chances are that we will be back next year.

#### **Renfrew County East (RCE)-ARES Group report:** *Submitted by EC Debra, VE3IE*

The Renfrew County East (RCE)-ARES group members and those of the Champlain Regional Repeater Association (CRRA), and invited guests, attended an ARES training course conducted by DEC Lance Peterson, VA3LP, on September 20 and 21 at the Dacre & Area Community Association (DACA) centre near Renfrew.

A deployed exercise was conducted on Saturday at five sites in and around Dacre using the VE3STP wide range RPT and using various simplex frequencies, all to test the ARES training just received. The weather was decidedly uncooperative; however, after the successful completion of the exercise the participants returned to the DACA centre for debriefing, strawberry-rhubarb pie, and the presentation of Certificates of Achievement indicating that everyone had completed the Eastern Ontario ARES District Training course.

RCE-ARES group will be launching its own ARES net in the near future and it is planning to hold at least one modest exercise before the snow flies.

While not directly connected to RCE-ARES, the CRRA would like to announce the acquisition of an 8' x 8' solid aluminum "bungalow" donated by the Canadian Pacific Railway. This structure will

eventually be used as either a replacement for the shack currently housing VE3STP RPT (146.060-) or as a second shack for another repeater and or related equipment.

The District ARES training course attendees were: VA3RWH, VE3IEH, VE3JA, VE3JSQ, VE3AAC, VE3TUC, VE3ELM, VA3RKO, VA3TJP, VE3JGU, VE3AMN, VE3PM and Group Coordinator Debra, VE3IEH. Thanks go to DEC Lance, VA3LP, for conducting the course for us all.

The Renfrew County East (RCE)-ARES Group Coordinator Debra, VE3IEH and Assistant GC Wayne, VE3JSQ, attended the annual meeting of the Joint Emergency Preparedness Committee on October 7 at 7 pm, at the township offices of the host community Killaloe-Hagarty-Richards. Presentations were made by Mike Nolan, Emergency Services Director for Renfrew County and by RCW-ARES GC Bob Howard, VE3YX. Field Officer Philippe Geoffrion of the newly named "Office of the Fire Marshall and Emergency Management" (formerly Emergency Management Ontario) spoke to the attending group. Representatives from the Algonquians of Pikwakanagan, Bonnechere Valley Township, Brudenell, Lyndoch, Raglan Township, Greater Madawaska Township, Madawaska Valley Township, North Algona Wilberforce Township, South Algonquin Township and Killaloe-Hagarty-Richards were all invited to attend and present their committee input; however, not all representatives had reports to share.

RCE-ARES Group Coordinator Debra was highly impressed by the commitment and preparedness of Killaloe-Hagarty-Richards. It was a wonderful opportunity to do some networking.

At 8:30 am on October 17, RCE-ARES EC attended at the Red Cross office in Pembroke to assist with packet radio communications during an exercise planned and coordinated by RCW-ARES. The station was most ably run by Red Cross volunteers John, VE3IOI and his wife Judy. My sincere thanks go to them for their hospitality.

A meeting at the Horton Community Centre on October 30 at 11 am provided another excellent opportunity for networking and learning to the ARES Group Coordinator and to member Bill, VE3TUC. The "Capital Sector" Fall Meeting was chaired by Field Officer Philippe Geoffrion of the OFMEM and presentations were made by the Ministry of Natural Resources, the Ontario Society for the Prevention of Cruelty to Animals, and the OFMEM. GC Debra and member Bill, VE3TUC, made a couple of good solid

contacts and will be meeting with those township representatives in the near future.

#### **Ottawa ARES/EMRG Group:** *Submitted by AEC Mike Kelly, VE3FFK, for Ottawa ARES EC/EMRG group leader Richard VE3UNW*

The Ottawa ARES/EMRG Group had September as another infrastructure month in Ottawa.

On September 7, EMRG was able to turn some "quality collectables" into cash at the Carp Hamfest. With what was sold and with some metal and batteries that went to the scrap dealer, we brought in close to \$900. This will be used to build two radio systems, one for the fire dispatch centre and a matching system for the backup dispatch. Thanks go to The Ottawa ARC, who provide EMRG with a free spot every year at the HamFest to set up our booth, allowing us a chance to provide information and talk to Amateurs about EMRG. Thanks also go to Tracy, VA3TXN and Ron, VA3ACZ, for their help loading; Tim, VA3PYC and Ron for their help unloading; and Tim for spending the day at the EMRG table.

About \$2K worth of batteries were acquired to replace and upgrade or install backup capabilities at the various repeater sites.

On September 24, Peter, VE3BQP, and AEC Mike, VE3FFK, visited three of the four EMRG repeater sites for various tasks. At the West repeater, the backup battery was replaced after several years of service. At the South repeater, adjustments were made to the UHF antenna, while at the East repeater a backup battery system was installed where none had previously existed. The VHF antenna there was to be replaced with a multiband one, but due to difficulties encountered in the mounting system, this part of the site visit was postponed.

Yet more work is needed on the systems being built at the communications centre, including some cabling and installation. There are also some metal cabinets that require clean-up and installation of casters, power supplies and batteries, so we can use them as portable radio units at the dispatch centres. We also need to wire up the computer network, so we can set up the PCs.

Even with this long a "to do" list, when you look around at other ARES groups, we seem to be in relatively good shape for hardware.

On September 4, the monthly repeater tests, were directed by Dave, VE3KMY, with the participation of Tracy, VA3TXN, Ron, VA3ACZ, AEC Mike, VE3FFK, Paul, VE3CPH, Bob, VA3QV, Tim, VA3PYC, Harry, VE3FD and Roger, VE3NPO. This was a record turnout for these routine tests.

The Ottawa EMRG/ARES Group conducted their RPT tests on October 2, which was conducted by Dave, VE3KMY, with the participation of Ron, VA3ACZ, Tim, VA3PYC, Bob, VA3QV, Paul, VE3CPH and Mike, VE3FFK, who also checked that the digital systems were working normally.

The proposed Red Cross digital exercise did not take place, although work is proceeding on getting things to a state where not only a one time test, but ongoing training and exercises can be conducted.

The VHF antenna and cabling at the Cumberland EMRG site was replaced. It was found that the cable was actually several pieces of coax tied together with adaptors of varying quality. The new antenna gives us the ability to use 222 MHz and UHF as well as 2m from the site. With the new cable, VHF should work better also.

Arrangements are being made to have further work done on the antennas at the Barrhaven site.

There was no SET related activity originated by EMRG, although on the 26th Tim, VA3PYC, took an hour of the Net Control job on 7.055 MHz in support of the Ontario-wide annual SET and sent SET-related digital traffic using both HF and VHF digital modes.

#### **Prescott-Russell-ARES Group:** *Submitted by AEC Normand VA3NPL for EC Lance Peterson*

The Prescott-Russell (PR)-ARES Group conducted their yearly Goblin Patrol that was registered with the OPP for October 31. Normand, VA3NPL, was the coordinator of this year's event and in general, he reports that all was well. AEC Normand had AEC Harry, VA3ZAK, as Net Controller keeping things in check. There was a bit less activity than last year however, a surprising number of Goblins were out on the rainy streets in Prescott-Russell United Counties. Areas covered were: Clarence-Rockland, Wendover, Alfred and L'Orignal.

There was one small incident in which smoke generated by a smoke machine reduced visibility to about three feet in front of patrolling vehicles in Clarence-Rockland. This incident was reported to 911 and was dealt with. Another small item was a young mother in Alfred was alone with two very small children with her in the rain and the little ones were playing in the water puddles near the street instead of walking the street. The mother had no cell phones and was waiting to be picked by her husband – who did not know where she was. The Alfred Goblin patrol provided her with a cellphone to call her husband to pick them up. All was well very shortly afterwards.



The volunteer patrols were: Net Control AEC Harry, VA3ZAK, Chris, VA3NKE, Jim, VA3KV, James, VA3JRP, Ron, VA3RRZ, Mike, VE3IPC, plus new to Goblin Patrol were Pierre, VE3SOF and his wife Gaetane, who is studying for her Amateur Radio certification, and of course there was the Goblin Patrol event coordinator AEC Norm, VA3NPL.

#### **LNL-ARES Group:**

*Submitted by AEC Norm, VE3VY for EC Barrie, VE3BSB*

The Lanark/North Leeds (LNL)-ARES Group continued in October with their weekly breakfast meetings on Saturdays at Michaels in Perth. Members took part in the Goblin Patrol in both Perth and Westport.

Plans are underway by EC VE3BSB to reactivate repeaters at Tweed, Toledo and Lombardy, which have differing technical problems. Some repeater units will be replaced with commercial grade equipment. Solar power has been added to the VE3REX-7 digital node at Westport, mainly due to the efforts of VA3DOY, our newest Amateur.

On October 25, VE3CGD, VE3DOY and VE3VY attended a very interesting tabletop exercise, involving the Village of Westport and Rideau Lakes Township. The Village has accepted Dennis, VA3DOY, on their Emergency Planning Group.

Group members VE3GXW, VA3DOY and AEC Norm, VE3VY, attended a digital training session held by the Frontenac EmComm Group in Kingston.

In association with LNL-ARES group, President Robin, VE3UIX, of the Almonte ARC reports they had set up a station in support of the Jamboree on the Air (JOTA) on October 19 and 20. This was held at the Almonte Fair Ground, but unfortunately was not so well attended as was planned. During the event preparations over 150 scouts were expected but in the end only 20 attended. It seems that other scouting camps were held in parts of Ontario on the same weekend, but not devoted to JOTA as in the past. This was very disappointing for the local organizers. It is understood this will be raised with the Scouts Canada area executive.

The EOC at the Almonte General Hospital is being expanded to include an HF station and a 5.8 GHz link between it and the Mississippi Mills EOC at the Almonte Fire Hall. The broadband link will provide data and voice communications between the two locations and overcomes the need to establish two separate EOCs in an emergency. The HF station will serve as a "last resort" communication facility and will be set up with Winmor and other similar email protocols. It will also permit connection with EMO in

Toronto. Both the Almonte Fire Hall and the Almonte General hospital have standby power facilities.

#### **Severn ARES District Group Reports:**

*Submitted by EC Terry, VA3MTT*

The Peterborough ARES group conducted radio checks in October at the EMS building and in the Mobile Command Vehicle. The portable antenna was set up and tested with several repeaters. The tests were done by Rick, VE3IQZ and group EC Terry, VA3MTT. Radio checks were also done at the Police station.

New antennas and radios have been installed in Firehouse 3. The new building is great and we have been given a very nice room to operate. The radios are up and working as we have had our first test from there; more programming will be completed in the near future.

October 5 saw another invasion of "Skullers" from all over Ontario and Quebec, descend to Peterborough for the Head of the Trent Regatta. Communications for this event is a huge undertaking and ARES, in conjunction with the Peterborough Amateur Radio Club, managed to handle over 400 teams and over 12 hours of communications including a full-time pontoon boat.

Something different was tried this year as we spent most of the day working crossband repeat with several simplex frequencies and 440 frequencies. This worked very well and was a first for some ARES Members. The following members were present for part or all of the day: Barry, VE3BLM, Teresa, VE3TQM, Rick, VE3IQZ, John, VA3NW, Robert, VE3KEA, Greg, VE3GVJ, John, VE3VL, Bob, VE3IEL, Nina, VE3IRK, Devon, VE3DEV, Bill, VE3MEW and Group Coordinator Terry, VA3MTT.

On the next day Neil, VE3AXG, Paul, VE3AXT and several of us helped with the CIBC Run for the Cure. It was a wet morning, but no incidents were reported on the course.

#### **Loyalist ARES District Group:**

*Submitted by Bill, VE3CLQ*

The Frontenac County EmComm Group reports on their annual SET which was earlier than the Ontario SET date. This exercise was also the unveiling of our new digital network that has been built over the past 12 months. See page 46 for more information.

#### **Prince Edward County ARES Group:**

*Submitted by Group Coordinator Doug Monk, VE3ZDG*

The Prince Edward County ARES Group participated in the SET on October 26. It involved a simulated notification to EMO ops centre of a municipal declaration of emergency, sent by HF. For a complete report see page 47.

#### **Districts reporting:**

Eastern Ontario, Severn & Loyalist.

**ECs reporting:** VE3VY, VE3FFK, VE3YX, VA3LP, VE3IMP.

**DECs reporting:** Lance, VA3LP.

**OBS reporting:** VA3BIX, VE3KII, VE3VY and VE3ZJS.

— 73, Michael Hickey, VE3IPC

#### **ONTARIO GTA SECTION REPORT**

SM: George Duffield, VE3WKJ

ASM: Vic Henderson, VE3FOX,

James King, VE3ETZ

ASM: James King, VE3ETZ

SEC: Rick Harrison, VA3NV

SBM: Brad Rodriguez, VE3RHJ

STM: Vacant

#### **SEPTEMBER-OCTOBER SM REPORT:**

Here we are, entering a New Year; a time of promise and new beginnings. This is exactly how I perceive things as I look back to the final months of 2013 and contemplate what can be in 2014. In this report though, we are looking at the months of September and October, a time when clubs began their fall season, and when the Field Services groups across the country tested their capabilities in the annual SET.

In the GTA, as well as the other Ontario Sections, we raised the ire of our contesting colleagues by setting the date for the SET as the last Saturday in October. This was done to support JOTA/JOTI, the Scouts Canada initiative that brings Amateur Radio to scouting groups worldwide. However, this date conflicted with the CQWW Contest and may have led to some volunteer dislocation. I am told by some GTA Amateurs that their results in the contest were very good. I congratulate those who were involved in the CQWW Contest for their commitment to contesting and for their successes.

The SET was also a success in the GTA. There was wide participation and the scenario, which was developed by GTA West DEC Glenn Marrett, VE3CEZ, with consulting help from Geoff Coulson, the Chief of the Severe Weather Desk at Environment Canada. No doubt more will be said about this exercise in the reports which follow, from the various groups/leaders involved. In 2014 there should be no conflict between these two events. I have heard that the third Saturday of October will be designated nationally for JOTA, and the SET will move to the first Saturday of the month. The ARRL SET is usually scheduled for the second Saturday of the month, which is, of course, our Thanksgiving Day weekend.

Among the leaders of the various ARES groups in the GTA Section there is a tangible commitment to the development of the Emergency Communications product to a level that will leave no doubt as to the capabilities of its Amateur Radio operators. With the days already

beginning to lengthen, there will be many opportunities for training, especially as the warmer weather returns. It is quite possible that during these winter months, there will be some tabletop or even outdoor exercises. I hope those involved will enjoy the exercises and that their EmComm experience broadens their enjoyment of our great hobby.

I continue to impress upon everyone that Amateur Radio is a participatory hobby, not a spectator event. In order for us to grow as an organization we need input from all Amateurs. I urge those who are RAC members to get involved in an area of your interest and any non-RAC members who are reading this, to consider joining our national society and contributing to the hobby we enjoy so much.

As always, I am available to visit your club to answer your questions and to share what I have learned from Officers and Regional Directors about the future direction of RAC. Every club in the GTA Section has my contact information. Do not hesitate to use it.

#### **SEC report:**

*SEC Rick Harrison, VA3NV*

GTA ARES groups were quite active with various events, courses and learning opportunities. All groups seem to be increasing their activity level. The SET was obviously a major training event and much was learned. These lessons will be applied as we move forward.

#### **DEC (GTA West) report:**

*Glenn Marrett, VE3CEZ*

I attended five meetings in September to discuss various roles within the SET and some lessons learned have already come to the forefront in preparation for the exercise. Most ARES groups in the GTA West have come on board and are practising with various communication exercises to prepare themselves for whatever disaster they are to face in the coming weeks.

October was a very busy month. I covered duties of the OBS on October 1, 8 and 15. I participated in the Lion's Club Car Rally for the Visually Impaired on October 20, manning one of the checkpoints.

I attended numerous meetings throughout the month dealing with the SET, meeting with the Peel ARES group on the 21st to hand out SET information packages, the Mississauga EC and AEC on the 22nd, and the Oakville EC on the 23rd. After 4 pm on the 25th, as part of the run up to the Simulated Emergency Test, weather statements that had been created for us, by Geoff Coulson at Environment Canada, were read over the air to help set up the event on the 26th. This partnership with EC was very much appreciated and certainly added to the excitement of what

was to come! On Saturday the 26th, I was the mobile SSTV station sending damage images back to the Halton EOC; 14 in total.

I attended the SET debrief meeting held at Red Cross "O" zone in Mississauga on October 30, along with representatives from Peel, Mississauga, Toronto, Halton and Burlington. Section Manager George Duffield, VE3WKJ, and Section Emergency Coordinator Rick Harrison, VA3NV, were also in attendance at the debrief session.

Goals for the SET were put in place to test a "back to basics" scenario, where Internet, cell service, phone service, and even repeaters were taken out by a severe, end of season storm that produced two tornadoes along with torrential rain and flooding across the GTA. ARES groups from the affected regions would have to find a way to cooperate and work together in serving the Red Cross by manning "mock" shelter locations and requesting aid supplies from "mock" Zone Disaster Coordination Centres. This would be accomplished using basic packet and FM simplex to get the messages through and, of course, all transmission methods used would be evaluated after the event to determine viability and commonality among the responders. Updates throughout the event were sent to the Halton EOC and collected, again for evaluation.

#### **City of Toronto report:** *Malcolm Kendall, VA3BGD*

Members of Toronto ARES and Members of the Toronto Amateur Radio Club joined forces with the Toronto Red cross Radio team for the October SET.

Our goal was to prove that we could send, by means of a simplex frequency, voice and digital traffic from the Warehouse in Scarborough manned by Ralph, VE3RWO and Tim, VA3TMA, along with a Red Cross volunteer, to the HQ in Toronto, manned by Dave, VA3KDJ and Malcolm, VE3BGD and three Red Cross Volunteers, then finally on to the Provincial Red Cross HQ in Mississauga, manned by Doug, VE3HOY, who stepped in at the last minute to assist the group.

I would like to note that after about an hour of training, the radio and message sending and receiving was handled by the volunteers, under the supervision of a licensed operator – this was the simplicity of the NBEMS system. We also had two Shelters operating: one on Bayview Avenue, North York, manned by Joe, VE3OV and one in Scarborough, manned by Ralph, VE3VXY. The digital format used was FL-DIGI with FL-MSG looking after the form input and output.

The exercise was a success with the Toronto HQ acting as the relay station gaining full coverage of the area. Many pieces of traffic were

passed between the groups all ending up at "O" zone where Doug, VE3HOY, distributed the information. (Note: Equipment requirements, laptop loaded with FL-DIGI and FL-MSG, an HT radio. The link to the laptop is by an audio link by means of the laptop's sound card.)

We plan to continue with the training of the Red Cross Group and hope to have a GTA Red Cross Net running before too long.

#### **Brampton / Caledon ARES:** *EC Richard Upfield, VA3RMU, CEC*

September commences the new year for our Peel Amateur Radio Club with which our ARES group is affiliated. We conducted a local SET on September 5 in which we made VHF and UHF simplex communications from selected locations in the Brampton area to give us an idea of the coverage area we could expect during an emergency situation. As expected, this revealed areas in which we need to do some work.

On September 5 we were also invited to give a presentation to some students who will be participating in the "first LEGO League's 2013 Nature's Fury Challenge". Over 200,000 children from more than 70 countries will explore the awe-inspiring storms, quakes, waves and more, that we call natural disasters. We will be working with them in the coming weeks as they prepare their entries for the competition. There were approximately 100 students and teachers at the presentation. Thanks to Paul, VA3PB, for a great job done.

October has been a busy month for our ARES group as we planned for and again participated in JOTA on October 19 helping the Scouts of the Bolton unit to contact their counterparts on HF, VHF and the Internet. Thanks to Jeff, VA3QSL, and Edmondo, VE3ITA, for their assistance in the event.

On October 26 we participated in the GTA SET, passing NTS messages across the various locations. Thanks to Paul, VA3PB, Joe, VA3POR, Ernie, VE3VBJ, Don, VE3REO, Richard, VA3RMU, and Rick, VA3CB, for helping to make the exercise time exciting.

#### **Burlington ARES:** *EC Kevin Andrews, VA3KRA*

Burlington has been revising its membership numbers and it appears a more accurate count at this time is five active members. Shawn, VA3MFD, has stepped forward to assume the responsibilities of AEC and is already providing assistance to Kevin, VA3KRA, with projects.

On September 7, Burlington and Oakville ARES assisted with communications for the Appleby Pharmacy Waterfront Trail 5K, 8K and Double Crown road races. Thanks to Kevin, VA3KRA,

Stan, VA3SBB, Gary, VE3TTO, Peter, VA3PRE and John, VA3BL, for their participation.

On September 15, Burlington and Oakville ARES assisted with communications for the Burlington Terry Fox Run with proceeds going to Cancer Research. Pledges for Cancer Research, toward the event, that day were just over \$92,000. Thanks to Kevin, VA3KRA, Stan, VA3SBB, Gary, VE3TTO, Peter, VA3PRE and Joan, VE3JNX, for their participation.

Various meetings were attended by EC Kevin, VA3KRA on October 16, 25 and 26.

On October 14, EC Kevin, VA3KRA, attended the Western New York Southern Ontario repeater council (WNYSORC) meeting in St. Catharines representing the VE3RSB, VE3BUR, VA3BUR, VE3OKR, VE3HAL and VE3TTO repeater Systems.

On October 20, EC Kevin, VA3KRA, assisted Oakville REACT and the local ARES teams in providing communications support for the Oakville Lion's Club car rally for the visually impaired. On October 21, VA3KRA attended the monthly meeting of the Halton Red Cross disaster management team. Kevin, VA3KRA, Peter, VA3PRE, Dave, VA3DDA and Shawn, VA3MFD, gave a presentation on ARES, NTS message systems, Packet, two-way radio and cellular phone communications.

On October 22, Burlington ARES had a meeting led by AEC Shawn, VA3MFD, with four of the team members. Discussions about the direction and activities for the team were discussed.

October 26 was the GTA Section annual RAC SET.

On October 30, EC Kevin, VA3KRA attended a GTA Section SET debriefing meeting at Red Cross "O" zone. On October 31, he attended the Burlington ARC Director's meeting to provide an ARES report.

#### **Mississauga ARES:** *EC Thomas Bernard, VA3TMB*

In September, Mississauga ARES members joined the Brampton-Caledon ARES group for the presentation by Brampton Fire communications Division Chief on emergency radio communications for ARES members.

Thirteen operators participated in the SET on October 26 including: John, VE3DRZ, Lorne, VE3CXT, Bob, VE3XBB, Gerry, VE3GRS, Thomas, VE3ETG, Brian, VA3KBH, Michael, VE3TKI, John, VA3XJL, Wayne, VA3NWH, Mirza, VA3SNA, Peter, VA3PKM, Brian, VA3AZA, and Thomas, VA3TMB.

#### **Oakville/Milton ARES:** *George Davis, VE3OGP, EC*

The September monthly meeting covered a wide variety of topics including updates on the

surrounding repeaters sites by Rod, VE3RHF and John, VA3BL.

Judy, VA3JDA, has taken on the roll of membership AEC and Gord, VE3OXP, updated us on the preparations on giving a course in Amateur Radio in his role as public relations AEC.

Oakville ARES assisted Oakville REACT at the Lions Car Rally for the Blind on October 20.

While participation was light Oakville ARES manned both the Milton Red Cross and an NCS station for the GTA Section SET which took place on October 26.

The group continues to look for a proper meeting venue in the Oakville/Milton area so that we can continue with our training.

**DEC/ECs reporting:**  
**DEC:** VE3CEZ.  
**EC:** VE3BGD, VA3KRA, VE3OGP, VA3TMB, VE3RMU

**Official Bulletin Stations:**  
VE3SHM, VE3JUZ

— *George Duffield, VE3WKJ*

#### **QUEBEC:**

SM: Vacant  
SEC: Normand Pitre, VE2NHK  
Email: ve2nhk@rac.ca

#### **SEPTEMBER-OCTOBER SM REPORT:**

##### **Rallye Défi**

*Frédéric Thisdèle, VE2ONR  
(Responsable des communications,  
Rallye Défi)*

Le 6 et 7 Septembre dernier avait lieu le 21 Rallye Défi dans la belle région de Ste-Agathe (Laurentides) et Montpellier (Outaouais). Pour une deuxième année, le Club de Radio Amateur Laval-Laurentides VE2CRL s'est occupé des communications afin d'assurer la sécurité des 27 participants.

Le club souhaite souligner la participation des amateurs suivants : Réjean, VE2MAP, Benoît, VE2TBX, Frédéric, VE2ONR, Rolland, VA2BRD, Alonzo, VE2PKO, Luc, VA2TGO, Yves, VE2AXD, Laurent, VA2AWD, Luc, VA2DLJ, Simon, VE2SKT, Gilles, VA2TK, Alain, VE2VHM, Hugo, VA2LCZ, Ross, VE3WOD, Doug, VA3HOL, Larry, VE3XFT, Bruce, VA3BR3, Terry, VE3IME (Contrôleur de Course; Race Manager).

De plus, nous désirons remercier Stanley, VA3SWP, ainsi que son équipe pour le ramassage des véhicules (Sweep Team).

Merci à tout et à l'an prochain.

##### **Opération Citrouille du radio club de Saint Jean**

Le 31 octobre dernier, un groupe de radioamateurs du radio club de Saint Jean, sous la direction de Jean-Guy, VE2AIK, ont prêté main-forte à la police de l'agglomération de Longueuil pour assurer la sécurité dans les rues de Saint Bruno de Montarville.



L'opération fut un succès complet et a duré entre 4h30 jusqu'à 8h30; 12 radioamateurs ont participé à cette opération.

Les amateurs suivants étaient présents: Luc, VA2DLJ, Jean-Guy, VE2AIK, Michel, VE2DJN, Serge, VE2DEQ, Dominique, VE2DNK, Yvon, VE2EHN\*, Denis, VE2NY\*, Pierre, VE2PBA, Marius, VE2PCN\*, Gervais, VE2PES, Stéphane, VE2XSM\* et Christian, VE2CFO.

*Marqués par une étoile, les amateurs présents étaient accompagnés de leur épouse.*

#### Goblin Patrol of St-Jean ARC

On October 31, a group of Amateurs from the St-Jean Amateur Radio Club in Montreal, under the supervision of Jean-Guy, VE2AIK, gave a helping hand to the local police to assure the safety in the streets of Saint Bruno de Montarville. The event was a full success and lasted from 4:30 pm until 8:30 pm.

Amateurs who were present were: Luc, VA2DLJ, Jean-Guy, VE2AIK, Michel, VE2DJN, Serge, VE2DEQ, Dominique, VE2DNK, Yvon, VE2EHN\*, Denis, VE2NY\*, Pierre, VE2PBA, Marius, VE2PCN\*, Gervais, VE2PES, Stéphane, VE2XSM\* and Christian, VE2CFO.

*Note: Call signs with an \* indicated that a spouse was present.*

#### Opération Citrouille à Saint-Eustache

Comme par les années passées, le Réseau de Protection Public (RPP) participait, le 31 octobre dernier, à l'Opération Citrouille à Saint-Eustache. Les radioamateurs, tout comme les bénévoles de la ville (Travaux publics, Mesures d'urgence, pompiers), ont patrouillé les différents secteurs de la ville une bonne partie de la soirée afin de s'assurer que cette soirée d'Halloween se déroule sans problème. Tous les bénévoles sont supervisés par Normand Brulotte (service de police).

Les radioamateurs présents étaient : Yann (VE2YYH), Yanick (VE2VEZ), Luc (VA2TGO), Normand (VE2NKH), Carole (VA2NDJ), Elisabeth (VA2ZUT), Joël (VE2JBD), Jean-Pierre (VA2JPY), Pierre (VE2HS), sans oublier Pierre-Alain (VA2GPA), qui patrouillait les rues de la ville avec son ambulance SPL. Le RPP remercie chacun d'entre eux pour leur implication dans cette activité communautaire très sympathique (voir la page 48).

Tout radioamateur qui souhaiterait s'impliquer dans nos activités est bienvenu (notre courriel : admin@va2rpp.org).

#### Goblin Patrol in St-Eustache

As in previous years, the VA2RPP group participated in Goblin Patrol in St-Eustache on October 31. Amateurs, just like municipal

volunteers (municipal works, emergency measures and firefighters) patrolled different city sectors a good part of the evening to make sure that Halloween goes without any problems. All volunteers were under the supervision of Normand Brulotte (Police service).

Amateurs who were present were: Yann, VE2YYH, Yanick, VE2VEZ, Luc, VA2TGO, Normand, VE2NKH, Carole, VA2NDJ, Elisabeth, VA2ZUT, Joël, VE2JBD, Jean-Pierre, VA2JPY, Pierre, VE2HS, and also Pierre-Alain, VA2GPA, who patrolled the streets with his ambulance. The VA2RPP group thanks everyone for their participation in this event (see page 48).

At the end of the event all volunteers return to headquarters for a debriefing and to eat some pizza.

Any Amateurs who would like to take part in any of these events are invited to send an email to admin@va2rpp.org.

– Normand Pitre, VE2NKH

#### NEWFOUNDLAND AND LABRADOR:

SM: Vacant

#### SEPTEMBER-OCTOBER SM REPORT:

The Newfoundland-Labrador Section, since my resignation as Section Manager, is now being governed by committee with Chief Field Services Officer Doug Mercer, VO1DTM, at the helm. There are a good number of Amateurs through the province who pitch in whenever support is needed, including Labrador, the Great Northern Peninsula, Central, Western, Southern, North Eastern, Burin Peninsula and the Metro area. A number of these Amateurs have mentioned that they miss the NL Section Report so, with a bit of prodding, I promised to continue to submit a regular report acting in the position as Bulletin Editor. Here is my first report.

Congratulations for a job well done are extended to two clubs: ARCON, based in Central and AVRAC here in the Metro St. John's area.

Ken Tucker, VO1KVT, President of ARCON and Central ARES coordinator submitted the following report to me:

"The Amateur Radio Club of Central Newfoundland (ARCON) has established a communication unit at the Gander Fire Hall for emergency communication purposes. Club members have put their effort into installing new VHF and HF antennas onsite and constructing a console to mount the radio equipment in. The communication unit consists of a VHF radio, ICOM 746 HF radio, also a phone patch on the local VO1ADE repeater.

In the event of a disaster or emergency where Amateur

#### RAC FIELD ORGANIZATION REPORTS

##### National Traffic System (NTS) Net Reports

Net (Manager)	Sessions	QNI	QTC
<b>September 2013:</b>			
APSN (VA6IX)	30	1356	20
Alberta ARES	12	266	7
Alberta Aurora (VE6TRM)	31	1649	0
BCEN (VE7XLH)	30	250	19
BCYTN (VE7WJ)	30	584	45
CECA (VE7GN)	4	61	10
MEPN (VE4LB)	23	393	6
MMWXN (VA4GD)	30	631	1
MRS (VE4HK)	9	306	0
MSMN (VE4AEW)	21	605	0
OPN (VE3HZQ)	30	149	35
<b>October 2013:</b>			
APSN (VA6IX)	31	1460	38
Alberta ARES	12	237	7
Alberta Aurora (VE6TRM)	31	2170	0
BCEN (VE7XLH)	31	262	26
BCYTN (VE7WJ)	31	562	56
CECA (VE7GN)	5	58	10
MEPN (VE4LB)	24	439	6
MMWXN (VA4GD)	31	625	1
MRS (VE4HK)	9	277	0
MSMN (VE4AEW)	21	582	0
OPN (VE3HZQ)	31	144	40

communications is required, the setup at the Gander Fire Hall will permit communications on VHF throughout the central Newfoundland area and the HF unit will provide communication province-wide and beyond if required. Both the VO1ADE repeater and the unit at the Gander Fire Hall are backed up by emergency power system. The club is also in the process of replacing two VHF repeaters, VO1GLR and VO1LJR, which will be linked to VO1SHR; that will provide an important link east into St. Johns. Special thanks go out to VO1OT, VO1HX, VO1TH, VO1EHS, VO1AJ and VO1JNS for their contributions to this project. The entire Central region will benefit from this. The club hosted an open house on Thursday, November 21 to demonstrate the new communications system to invited guests and will host the Newfoundland and Labrador evening net."

In the metro St. John's area, the AVRAC club has made significant progress with the repair and placement of old and new repeaters. This initiative is mainly as a result of the efforts of younger more energetic Amateurs like Matt Gillie, VO1EI. This group does the maintenance on the D-Star, VO1TZ and local VO1RCR repeater. Recently, a new VHF repeater, VO1NTV, has been put on air and when it gets eventually placed in its intended home, it will give broad coverage on the eastern Avalon. They also provide help to the rest of us in an effort to keep the linked repeater system from Central to Eastern operational.

In addition, it was encouraging to see two Amateurs from the western area set up portable at the lighthouse in Rocky Harbour in Gros Morne National Park during the Lighthouse Weekend in late August. This garnered Amateur

Radio some public attention with a picture and short story in both the *Western Star* and *Evening Telegram* newspapers.

This past few months we reluctantly said farewell with the passing of two of the most respected Amateurs in the province: Wayne Smith, VO1TA, and Dave Colton, VO1TK. Wayne was a net controller on both the Cod Jigger and Evening Nets. Wayne always was there to help others with their stations; he had climbed just about every tower in eastern Newfoundland. In spite of this he also found time for himself in the hobby participating in most all contests and acquiring many awards. It is so therapeutic for the rest of us to hear his XYL Marilyn, VO1MJM, check in to the nets occasionally using his station. She has also had his call sign, VO1TA, transferred to herself. The Saturday morning breakfast crowd certainly notice the absence of Dave. Normally always the first one there, he couldn't wait to get the banter going. You could always count on Dave on Field Day to get you a few points on CW. He was a pure gentleman Amateur, always helpful with advice and with a way to get a smile from everyone with his pointed but never hurtful joking way.

The nets continue with active participation:

**September:**  
Cod Jigger 175  
Evening 398  
**October:**  
Cod Jigger 304  
Evening 798

My thanks to Ken Tucker, VO1KVT, and Ira Stacey, VO1IRA, for their contributions to this report. Remember, Amateur Radio is a hobby; have fun with it.

Charlie Marsh, VO1VZ



# COMING EVENTS

## THE HAMFEST AND FLEAMARKET CALENDAR

The following events are listed by date. Some dates and details are tentative.

### BIG EVENT 36 FLEAMARKET AND HAMFEST

Sponsored by the Niagara Peninsula ARC

**Date:** Saturday, February 1.

**Time:** Vendors 7 am; Public 9 am;

Out-of-the-Cold Reception area open at 8:15 am.

**Place:** St. Catharines, Ontario; Merriton Community Centre, 7 Park Avenue.

**Description:** CanWarn, ARES, RAC, QSL Bureau, Durham Radio, Radioworld, Maple Leaf Communications, Door Prizes, Hot Food, Sandwiches, Pop, Free Coffee.

**Cost:** \$7 per person; Tables \$12, table only. All tables 6ft long. Power only available at tables around the perimeter of the room.

**Information:** Contact NPARC Big Event Table Coordinator David, VE3BBN, at vendors@nparc.on.ca to book tables. Or contact NPARC Big Event Convenor Larry, VA3TLN, at bigevent@nparc.on.ca for more information. Please make all cheques, or money orders, payable to NPARC Inc. and send payments to: Table Coordinator, David Wilson, PO Box 452, 1153 Line 9, St. Davids ON L0S 1P0 Attention: Big Event Tables.

**Talkin:** VE3NRS 147.240 MHz + Offset Tone 107.2 Hz.

**Webpage:** <http://www.nparc.on.ca/bigevent.php>

### 18TH ANNUAL IROQUOIS FLEAMARKET

Sponsored by the Iroquois ARC

**Date:** Saturday, April 5.

**Time:** Vendors 8 am; Public at 9 am.

**Place:** Iroquois, Ontario; Iroquois Civic Building at 1 Dundas Street. Take exit 738 from the 401.

**Cost:** Admission is free! Table rental \$10.

**Talkin:** 145.29(-) VE3IRO

**Information:** For table rental contact Mike at va3tufham@aol.com or Don at va3nc@rac.ca.

### WINNIPEG ARC SPRING FLEAMARKET

Sponsored by the Winnipeg ARC

**Date:** Sunday, April 13.

**Time:** Coffee, snacks, and eyeball QSOs 9:30 am; Vendor setup 9:45-10:30 am; Buying begins: 10:30 am; Prize Draws: 11:30 am.

**Place:** Winnipeg, Manitoba; at the Heritage Victoria Community Centre, 950 Sturgeon Road.

**Description:** Winnipeg's favourite gathering of new and old hams along with a Fleamarket.

**Cost:** \$5 per person. Exact change preferred. Tables: \$5 each for WARC members and \$10 for others.

**Information:** Contact Ruth, VE4XYL, 204-837-6915 or ve4se@mymts.net to book a table. For further information, contact Dick, VE4HK, at ve4hk@rac.ca or 204-256-3143.

**Talkin:** 147.390 + offset 127.3 tone

### NEW ENGLAND AMATEUR RADIO FESTIVAL (NEAR-Fest XV)

Sponsored by the New England Amateur Radio Festival, Inc.

**Date:** Friday, May 2 to Saturday, May 3.

**Time:** Gates open at 9 am on Friday for sellers and buyers. We do not provide for early admission and preferential treatment for "dealer setup" or "Early Bird" buyers. Everyone has the same chance to find the bargains!

**Place:** Deerfield, NH, USA. The Deerfield Fairground is located on Route 43 approx 15 miles NE of Manchester NH. GPS coordinates: N42d 5m 57.4" W71d 14m 33.5s (Lat 43.099286 Lon -71.242663).

**Cost:** \$10 per person and \$10 per vehicle into the fleamarket. Camping fees are \$30 a night. Tent sites are \$15. All overnight fees are payable to the Deerfield Fair Association.

**Talkin:** K1JEK/RPT 146.700 MHz (-600 PL 88.5) 146.52 direct 3.885 MHz Tune your car radio to FM 95.1 or AM 650 for continuous hamfest news and entertainment.

**Information:** W1RC@near-fest.com

**Webpage:** <http://www.near-fest.com/>

### MAPLE RIDGE SWAP MEET

Sponsored by the Maple Ridge ARC

**Date:** Sunday, May 4.

**Time:** Vendors 7:30 am; Public 9 am.


Open For pancake breakfast at 8 am.

**Place:** Pitt Meadows, British Columbia; 12460 Harris Road, one Block South of the Lougheed Highway in the old REC Building

**Description:** Come one come all! Ham Radio & Computer Swapmeet The largest in the Fraser Valley Great prices lots of stuff. Pancake breakfast between 8 and 9 am. Concession will remain open during the event.

**Cost:** Tables \$20 includes 1 entry and a chance to win a radio. Entry \$5 includes chance to win a radio.


**Talkin:** 146.800 -600 + Tone 156.7.



<http://www.mapleleafcom.com>

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- 6m Yagis (3 & 4-element) & Verticals
- Portable J-Pole Antennas (6m/2m/70cm)
- Zeus Lightning Surge Suppressors
- RF Connectors & Adapters
- Coaxial Cables (50, 75, 93, 125, & 36 Ohm)
- Ladder Line (300, 400, 440, & 450 Ohm)
- Antenna Wire (bare, tinned, & insulated)
- Baluns 1:1, 4:1, 6:1 (stainless hardware)
- RF Coaxial Chokes (160m thru 6m)
- Fiberglass Rods & Tubes
- Dacron Rope (3/32" to 5/16" dia.)
- Aluminum tubing (telescopic)
- Custom Antennas
- Duplexers for 70cm and 23cm

Box 1471, Everett, ON L0M 1J0  
Tel: (705) 435-2819  
Fax: (705) 435-2996



email: [info@mapleleafcom.com](mailto:info@mapleleafcom.com)

**Information:** Call Nick at 604-465-9476

Contact: ve7te@mrarc.net

**Webpage:** <http://www.mrarc.net>

### 30TH SMITHS FALLS FLEAMARKET

Sponsored by the Rideau Lakes ARC

**Date:** Saturday, May 10.

**Time:** Vendors 7 am; Public 9 am.

**Place:** Smiths Falls, Ontario; Smiths Falls Curling and Squash Club (same location as last year), Old Sly's Road. Check our website for a site map.

**Description:** Our 30th Annual Fleamarket of Amateur Radio Equipment includes a large number of Commercial and Private Vendors, a Canteen, a Consignment Table and an Equipment Test Table.

**Cost:** Admission \$5 (includes a door prize ticket); Youth under 16 admitted Free of Charge; Vendors: Tables (Approx. 2 1/2 X 5 ft) \$10 (admission not included).

**Talkin:** VE3RLR on 147.21 MHz+

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# RAC PRESIDENT GEOFF BAWDEN, VE4BAW, VISITS BRITISH COLUMBIA



Photo at left: BC Amateurs in an environment familiar to hams across Canada: their favourite restaurant! Great conversation and good people. Going around the table from left are: Dave Gillis, VE7BX, Geoff Bawden, VE4BAW (RAC President), Al Ross, VE7WJ, Al Munnik, VA7MP, John Mackay, VE7EEX and also Bill Gipps, VE7XS (RAC Director for British Columbia & Yukon Territory).



Photo at left: At the Coquitlam Amateur Radio Emergency Services Society; from left are: Richard Wodzianek, VA7RLW (CARESS President), Bill Gipps, VE7XS and Geoff Bawden, VE4BAW.

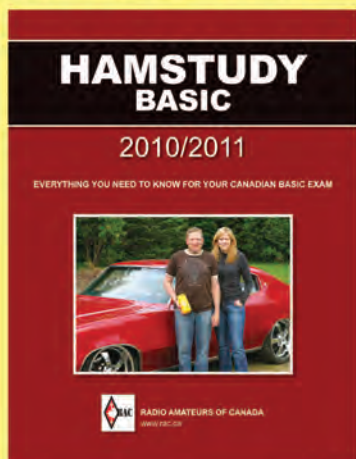


At the November 6 business meeting of the Vancouver Emergency Community Telecommunications Organization, VECTOR members were offered a "substantive and candid presentation by Geoff Bawden, VE4BAW, President of the Radio Amateurs of Canada organization."

Gary Webb, VA7GMW (VECTOR President) is on the left beside Geoff.

Joining Geoff was RAC Director Bill Gipps, VE7XS.

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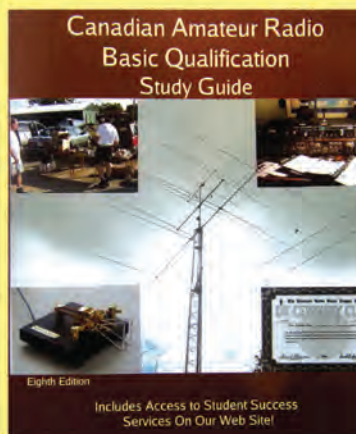
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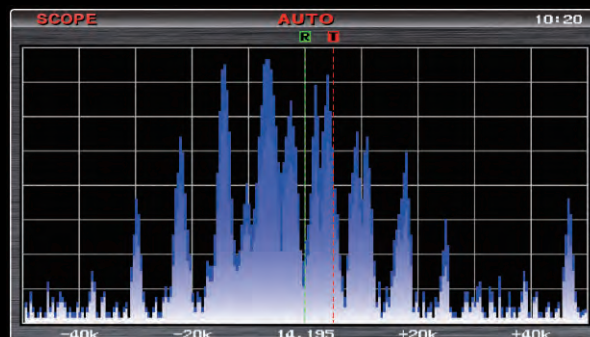
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